

# AMERICAN RAILROAD JOURNAL.

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HENRY V. POOR, Editor.

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## American Railroad Journal.

Saturday, March 12, 1853.

### New York and Erie.

As little is known of the early history of this enterprise, we give the following extracts from the reports of the company published in 1844 and '45, which, with the article in our paper of the 19th, will convey a clear idea of the condition of this work at the above date, and its progress to the present time.

Extensive portions of this road were placed under contract as early as 1840 and 1841. The company subsequently became embarrassed for want of means, failed, and in 1842 its property was placed in the hands of assignees, and the work suspended.

In 1843, vigorous efforts were made to secure the necessary means for the resumption, and prosecution of the work. A new board of directors were chosen, and Horatio Allen Esq., now of the *Novelty Works*, was placed at the head of the company. On the 8th day of February, 1844, this board issued an elaborate report, or statement, showing the condition of affairs, with estimates of the probable amount necessary to complete the road, income, etc. etc. This is the fullest and most complete report ever issued. It brings the history of the company down to its date, and its perusal will materially help to a correct understanding of what has since transpired.

The report, after alluding to the fact of their recent election, of a new board of directors, to the embarrassed state of the company's affairs, and the

necessity of prompt action to avert a complete failure of the enterprise, goes on to state:

The board found, that the entire property of the company was in the hands of Assignees, having been so placed in April, 1842, to secure the creditors of the company; that the indebtedness of the company including interest to January 1st, 1844, was about \$600,000, a large portion being in the form of judgments; that in November, 1841, when contractors were prosecuting the work on contracts, covering 270 miles of road, the work had been suspended by resolution of the board, and had not since been resumed; that these contracts remained in force, and that large claims for damages for the suspension of the work might be presented.

The board deeming that the exigencies of the company required the unconditional surrender of these contracts, the relinquishment of all claims for damages, and the agreement on the part of the creditors, to postpone the payment of the indebtedness, issued a circular expressing their views, and employed suitable agents to carry them into effect.—So entirely without pecuniary resource was the company, that the funds necessary for the payment of these agents and for minor office expenses, have only been obtained by private subscription on the part of a few friends of the road.

The result of these efforts has been:

1. The unconditional surrender of the contracts without important exception.

2. The relinquishment of all claims for damages.

3. A change in the character of the indebtedness to the following effect.

Of the total amount of indebtedness—

\$125,000 are now in the form of 6 and 7 per cent certificates.

\$305,000 are due to parties who have agreed in writing to take 6 and 7 per cent certificates on the surrender of the assignment.

\$143,000 remain unchanged.

Of the amount unchanged in its character—

\$50,000 are due to parties who will probably take the certificates.

\$53,000 are due to parties who refuse to take certificates, but who will to some extent give time, and \$40,000 due either to parties unknown, or to parties, whose action is uncertain.

The 6 per cent. certificates are promises to pay the sums named therein on the 1st of January, 1849, and interest thereon semi-annually, the net revenue of the Eastern division, being pledged for the payment of the interest.

The 7 per cent. certificates are promises to pay the sums named therein on the 1st January, 1849, and interest thereon semi-annually, the net revenue of the Eastern division, being pledged for the payment of the interest.

The 7 per cent. certificates are promises to pay the sums named therein, with accumulative interest at 7 per cent on the 1st January, 1849.

The total issue of either class of these certificates is not to exceed \$300,000.

The indebtedness of the company, which can embarrass its operations within 5 years, being thus reduced to less than \$100,000, the board have been able to obtain the surrender of the assignment and to recover possession of the road and other property of the company.

Having thus placed the indebtedness of the company in a comparatively favorable position, and having relieved future operations of all connexion with past contracts and questions of damages, and having the property of the company again in possession, the next subject of investigation has been the character, condition, and value of that property.

The property of the New York and Erie railroad company has been found to be of the following character.

1. 64 miles of railroad finished: of which 53 miles are at the Eastern termination in Orange county, most of which have been in use for general purposes, since September, 1841; and 7 miles double track at the Western termination, on Lake Erie, which have only been used for the transportation of railroad iron and other materials of construction; and 4 miles single track near Corning, Steuben county.

2. Of 177 miles of road in detached portions of 1 to 20 miles in extent ready for superstructure, 90 miles of which are of "piled" and 87 miles graded road, on about one-half of which the bridges are complete.

3. Of work done in partially grading 40 miles of road.

4. Of materials in timber consisting of rail timber, cross-timber, piles, etc., which have been prepared for the roads.

5. Of the right of way, obtained by purchase or concession for 325 miles, and permanent arrangements with the owners of adjacent property for building and maintaining the fences on 220 miles of the road.

6. Of grants of land to the company for depots, etc.

7. Of surveys, by which the general route for the 450 miles has been selected, and the exact location of 350 miles has been determined.

8. Locomotives, cars, &c., on 53 miles of road in use.

As the question of the value of this property necessarily embraces that of its condition, they may appropriately be considered together; and, as the cost to the company is the first means of arriving at its value, a summary of the expenditures of the company may here be appropriately presented, and to render the statement complete, and to show that it embraces all the expenditures of the company, since its commencement, there is submitted, in the first place, a summary of total receipts, and the amount of outstanding indebtedness for work done.

The receipts of the New York and Erie railroad company appear to have been as follows:—

From capital stock of the company, of which \$24,461 04 have been received since report to the legislature, in 1841 ..... \$1,606,218 67  
 \*Deduct stock held by company.... 104,388 53

1,501,830 14  
 Net proceeds of state loan of \$3,000,000..... 2,599,514 92  
 Interest received on hypothecated stock..... 30,942 40  
 Rent of offices ..... 2,928 16  
 Donations in Allegheny county..... 361 00  
 Receipts from eastern division, prior to assignment ..... 18,569 00

4,163,135 62  
 To which must be added, in connexion with the value of work done, the amount of indebtedness..... 573,814 39

\$4,736,949 99

*Summary of Expenditures by the New York and Erie railroad company.*

1. 7 miles double track at the western termination..... \$162,000 00  
 4 miles single track near Corning. 43,000 00  
 2. 53 miles single track at eastern termination, including pier at Piermont, \$200,000..... 1,788,523 11  
 3. Cars, engines, depots, shops, &c... 176,558 75

1,957,081 86  
 4. Work in progress of a permanent character, as excavations, embankments, foundations, and masonry of bridges, &c..... 785,369 62  
 5. Wooden bridges, finished and painted. Estimated..... 100,000 00

6. Materials and work of a perishable character, as rail and bridge timber, piles, and piles driven, timber pieces, and docking for bridges, &c..... 585,812 81

7. For right of way, and permanent provision for fences ..... 286,299 57

8. For surveys, locations and superintendence, engineer department 331,318 79

9. Interest, including that paid on state stock..... 225,753 08

10. Miscellaneous, salaries of officers, clerkship, printing, legal expenses, &c..... 230,266 93

Total on the road..... 4,716,872 66

Amount expended in running the eastern division, prior to the assignment ..... 18,000 00

\$4,734,872 66

As the only consideration, which induces an examination into the value of this property, is that connected with the completion of the road by the application of new capital, it is thought that the simplest and most practical form in which to present its present value, is that of an answer to the question—*What would the property of the New York and Erie railroad company be worth, to a new company prepared to construct a road on the same location?*

If an accurate reply to this question were necessary, the board would be compelled to postpone their report, until the investigation of competent engineers, during several months of a milder season of the year, placed in their hands the information on which alone a correct opinion could be formed. But they believe that, under the circumstances of the case, such a course is unnecessary and inexpedient. In reference to future operations, the two great questions as to expenditure, are—

1. *What will it cost to complete the road?*

2. *What is the amount of the present capital stock, which, with the new capital, will form the sum on which dividends are to be paid?*

On neither of these questions does the estimated value of the present property have any influence.

\* *Note by the Treasurer.*—This amount results from settlement of contractors' accounts predicated on the surrender of the contracts.

*By the liberality of the state, the property far exceeds in value the present capital stock, and if an estimate of present value be assumed below the real value, the injury, as far as future operations are concerned, will be solely the presenting less inducement to new capital than an accurate determination of the value would establish.*

On the other hand, the Board cannot, in a matter involved in uncertainty, and without the means and time for accurate information, determine on naming a sum which new capital shall look to as a valuable consideration, on any other principle than that of taking one so low that as to it there can be no doubt.

These remarks are made, that no inference unfavorable to the past management of the road may be drawn from the fact, that a sum less than the cost of the work, as it appears on the books of the company, is named as that which it would be worth to a new company about to embark in its construction.

It is proper to add, that in consequence of a reduction in the prices of provisions, wages for labor, as well as the cost of railroad iron, the same amount of road could be constructed now for an expenditure materially less than would have been required for the same description of road, in the years when the greater portion of the New York and Erie road was in progress of construction.

It will also be perceived, that by item 6, the materials of a perishable character that have remained in an exposed situation for two to three years, have cost \$584,760; of this amount, \$250,000 are for lumber of various descriptions, which have not yet entered into construction, but which has been delivered on the line of the road, or has been prepared for delivery.

Referring to the preceding remarks in explanation, the board state, as the result of their information and enquiries, that the expenses of all descriptions necessary to produce the work now existing on the line of the road—the information as to routes and locations—the right of way, grants of land for depots, and provision for permanent fencing, together with the motive power, cars, &c., on the 53 miles of road now in use, cannot be named at less than \$4,000,000; and that it would be more to the interest of a new company, to purchase these results for \$3,400,000, and assume the indebtedness for \$600,000, than to enter on the survey of the routes and the construction of the road from its commencement.

The property of the New York and Erie railroad company being taken at \$4,000,000, the next question is as to the ownership of this property.

The character of this ownership is found to be affected most essentially by the issue of the undertaking.

By the books of the company, it appears, as already explained, that the payments made on stock on which dividends are to be paid, amount to \$1,501,830; which amount, therefore, may be taken as representing the present ownership on the part of the stockholders. But there is an outstanding indebtedness to individuals of about \$600,000 to be provided for, and of three millions to the state, secured by a lien on the road and its appurtenances, prior to all other claims. If the road be not completed, the ownership is therefore substantially in the state, and, in view of that issue, the stock of individuals is but of little value.

But the act of the legislature of 1843 provides a bonus to future subscribers to the stock of a most valuable character. That act provides, that if the road shall be completed by April, 1849, the state will either reimburse all expenditures (except the \$3,000,000,) principal, and interest at 7 per cent., or will waive all claim. It may safely be assumed that the latter alternative will be the one adopted; and therefore, in view of the completion of the road, it may be stated, that the stockholders will then be possessed of property, worth at this time, over and above the indebtedness, not less than \$3,400,000, and represented on the books of the company by \$1,501,830.

The present situation of the company being thus defined, the board are prepared to take up the subject of future operations.

The first question in this branch of enquiry has been that of the cost at which the road can be completed. On this important subject, neither the

season of the year, nor the time within which it is highly expedient that this report should appear, permit the board to make, or cause to be made, an accurate verification of the estimates found among the documents of the company. Such verification would be a work of great labor, and would consume many months. The board have therefore called on the chief engineer, for an estimate of the capital necessary to complete a single track from the Hudson to Lake Erie, with an allowance of 10 per cent. for turnouts, and have requested the engineer to accompany his report with full explanations as to the manner in which these estimates were prepared.

The following is the report of the engineer:  
 Office of the New York and Erie Railroad Co.,  
 New York, Jan. 29, 1844.  
 HORATIO ALLEN, Esq., Pres't of }  
 the N. Y. & E. R. R. Co. }

SIR:  
 In compliance with your request, I present, below, an estimate of the cost of completing the New York and Erie Railroad.

"It is assumed that the road will be finished with a single track, with an allowance of one-tenth additional, or 45 miles, for turn outs and sidings. The rail which I have estimated for, weighs 56 pounds per yard, being that now used on the parts of the road already completed."

"At the close of the year 1841, when the whole line was under contract, and when on two-thirds of the extent the work was actively in progress, careful and detailed calculations were made by the Division Engineers, from actual and accurate measurements of the whole sum which, at contract prices, would be requisite to complete the road, including the laying of the track, but not the cost of the rails, spikes and castings, nor that of transporting these materials to convenient points on the line of the work. The road was definitively located, and the Engineers who made the calculations expected to continue their supervision until the contracts were completed. The prices were actual contract prices; a considerable portion of the work had been done; the quantities remaining to be executed were carefully determined; and so far as the Engineers may be supposed to have been under the influence of any motives likely to affect the result, they would rather have been inclined to increase the sum total than to diminish it below what was really necessary, in order that the actual results on the final settlements might be brought within their calculations.

You will perceive, therefore, that the usual sources of error and fallacy are, under these circumstances, not embraced. These remarks apply with especial force to the part of the line from Binghamton to Lake Erie (250 miles). They are substantially true, also, with reference to the part between Binghamton and Middleton, (148 miles) as this was likewise under contract, and the estimates were made with unusual care. From various causes, however, there is certainly a greater chance of error east of Binghamton than west of it; but from the statements which the Engineers have made to me, I feel quite confident that the quantities allowed for are ample."

"The full details of these calculations exist in the offices on the line of the road where they were made. I have exhibited to you voluminous summaries of them, and the condensed result of the whole is shown in the following statement."

"Cost of completing the several divisions of the New York and Erie Railroad, including land, workmanship of every description, and all the materials, except iron rails, spikes, and castings, viz:  
 Western division.....\$762,013 09  
 Susquehanna division. 537,101 04  
 Central ".....1,034,335 84  
 Delaware ".....1,515,711 52

Total.....\$3,849,161 49

*Cost of the Rails.*  
 At the present time a ton gross of heavy rails can be laid down at N. York city, at a cost, (including duty and charges) of about \$57.—  
 The duty is \$25.

The quantity required will be 36,153 tons, which at \$57 per ton will amount to..... 2,060,721 00  
 The transportation of this iron to the various accessible points on the

line of the road, ready for distribution, will cost on an average \$8 50 per ton, say..... 307,300 50  
If the State would remit the Canal tolls, this sum would be reduced about one half.

*Spikes.*

The quantity required is 1,057,224 lbs., estimated at 6 cents per lb. delivered, making..... 63,433 44

*Castings.*

The quantity required is 4,383,268 lbs., which at three cents per lb., is..... 131,498 04

Total..... \$6,412,114 47

If, as I think would be proper, a deduction of 11 per cent be made from the cost of the contract work, as given above, viz: \$3,849,161 49, on account of the lower rate at which work can be done now than when the existing contracts were entered into, say..... 412,114 47

We shall have as the estimate for completing the track for use..... \$6,000,000 00

The out-fit for the commencement of business, viz: for depots, water stations, engines, cars, etc., in accordance with detailed statements which it is not necessary to give, will cost..... 1,000,000 00

Making the whole sum required..... \$7,000,000 00

I have the honor to be, very respectfully,

Your obedient servant,

T. S. Brown,  
Chief Engineer.

In commenting upon the above, the report goes on to say:

It has already been stated that \$600,000 will be required to meet present indebtedness. It therefore appears that the total capital required will be \$7,600,000, and that on the completion of the road the capital stock for which dividends must be earned, will stand thus:

Stock issued prior to January, 1844..... \$1,501,830  
" " subsequent, "..... 7,600,000

Total capital stock..... \$9,101,830

While the property which this capital will own could not have been acquired for a less sum than..... \$11,000,000

Little was effected under this organization, save what appears in the above report. The action taken however, contributed materially to relieve the company from its embarrassed condition. The policy recommended was adopted by the new board chosen in the latter part of the same year, at the head of which was placed Mr. Loder, who has continued its President up to the present time.

On the 2d day of September, 1845, the company issued an address to the public, signed by Mr. Loder, soliciting additional stock subscriptions, from which we copy as follows:

"To complete a single track to Lake Erie, six millions of dollars are required. The cost of the work to the stockholders will then be \$7,350,000; and adding a liberal amount to provide for cars and engines for the commencement of business, the road, with a heavy (T) rail, estimated at \$65 per ton, will be brought into use for less than \$20,000 per mile. The actual cost of the road will be over \$28,000 per mile, but the liberality of the State, and the surrender of half of the stock by the present holders, reduces it to this very low rate.

In reference to the estimates, it may be proper to state, that responsible contractors have offered to take the whole work, at prices nine per cent less than those assumed in the calculations on which they were based.

As an inducement for capitalists to subscribe, interest, as will be seen above, will be paid upon the instalments, until the road is completed. This the company will be able to do from the surplus earnings of the 53 miles of road already in operation, and such

additional portions as may successively be brought into use. Should the requisite amount be at once subscribed, the whole road may be completed within three years from next spring—more than half of the work necessary to prepare the entire line for the rails having been done, and the surveys completed.

The directors cannot doubt that if the subject of the New York and Erie railroad were now for the first time presented to our citizens, without any collateral advantages, and based upon its own intrinsic merits, it would commend itself forcibly to their favorable consideration; but added to the other inducements are those of the release by the State of the \$3,000,000 loan, and the reduction of the old stock from \$1,500,000 to \$750,000, making altogether a bonus of \$3,750,000 to the new stockholders. Thus the whole work on which about \$5,000,000 has been expended will be represented by stock, and debts to the amount only of \$1,350,000."

This sum of \$1,350,000 was made up of the outstanding stock, \$750,000, and the floating debt referred to above, and which is now represented by the \$500,000 certificates.

It is proper here to state by way of explanation, that as an inducement to new subscriptions, the old stockholders surrendered one half their stock, viz: \$750,000, which operated as a bonus or gift, to the company, to that amount.

It will be seen that Mr. Loder adopts the estimate of Major Brown, the Chief Engineer, already given. His estimates, as well as those of the preceding year, were based upon the most careful and thorough surveys of the line, made under such circumstances as to "free them from the usual sources of fallacy and error." As additional evidence in confirmation of these estimates, Mr. Loder states "that more than one half of the work necessary to prepare the entire line for the rails had been done, and surveys completed;" and further, "that responsible contractors had offered to take the whole work at prices nine per cent less than the above estimates."

Here is something tangible. Estimates in detail, prepared and sanctioned by two of the most distinguished engineers then in the United States, Major Brown and Horatio Allen, are given. Surveys had been completed, the whole work to be done was thus spread out before the company. Responsible contractors had offered to take it, at a large deduction from the estimates. Uncertainty was at an end.—Demonstration had taken the place of conjecture.

Upon the accession of Mr. Loder to the presidency, the cost of the road, as represented by its indebtedness, was very nearly as follows:

State loan..... \$3,000,000 00  
Stock..... 1,501,830 14  
Floating debt, etc. .... 235,149 85

..... \$4,736,949 99

Increase under his administration:  
1st mortgage bonds..... \$3,000,000 00  
2nd mortgage bonds.... 4,000,000 00  
Income bonds..... 7,000,000 00  
Convertible do..... 3,500,000 00  
3d mortgage negotiated. 3,000,000 00  
Stock..... 7,116,991 17

..... 27,516,991 17

Total cost..... \$32,253,941 16

Excess of cost over Mr. Loder's first estimate..... \$19,266,991 17

As vouchers for the above, the directors give, under the sanction of the oaths of the treasurer and superintendent, the following items:

Graduation, masonry, and bridging \$10,661,624 92  
Superstructure, including iron.... 4,790,322 46  
Passenger and freight stations, etc. 1,048,199 53  
Land, land damages, and fences.. 1,077,365 67  
Locomotives..... 1,349,987 29  
Passenger and baggage cars..... 262,878 78  
Freight and other cars..... 1,162,745 22  
Engineering and agencies..... 475,821 29

..... \$20,828,945 16

Total receipts, as per above..... \$32,253,941 16  
Total cost..... 20,828,945 16

Amount unaccounted for..... \$11,424,996 00

We include in the above, \$3,000,000 of the new loan, as the present amount of the floating debt is undoubtedly quite equal to this sum. The \$3,000,000 of state aid, and the \$750,000 surrendered stock, were both gifts outright, and consequently constitute no charge upon the company. The proceeds of the state loan and the surrendered stock were used in construction, and make up a part of the above items of cost. Provided, therefore, that nothing had been lost, the items of cost would make a sum larger than the capital, as now represented by its stock and debts, by \$3,750,000, instead of \$11,424,996 00 less.

We bespeak the careful attention of our readers to the above extracts from the reports of 1844 and 1845. They recite the previous history and condition of the company. They show the value of the work then done. They give most carefully prepared estimates of the prospective cost of the road. These estimates were adopted by Mr. Loder as the basis of his calculation, when he assumed the direction of the road. We have here what we have so often insisted upon, the proper evidence, furnished by the proper parties, as to the cost of the road. When such estimates are given, we expect that the work will be done within them; or in case of excess, that satisfactory explanations will be given.

Since the date of Major Brown's, we can find no report whatever from any engineer employed by the company, and presume that none have ever been made. We are, therefore, in a great measure, left to conjectures for the causes of the increased cost of the road.

In the mean time, the company have made four reports or exhibits to the public, in addition to those made to the legislature, in which the cost of the road is estimated as follows:

Estimate as per report of 1848..... \$11,000,000  
" " " 1850..... 17,178,000  
" " " Feb. 15, 1851 20,500,000  
" " " Dec. 24, 1851 23,750,000

Is not the absence of all proper information as to the cause for this immense increase, evidence in itself that no good reason exists?

The report to the legislature, under date of 30th of September last, stated the cost of the road to be \$27,551,205 71. Since which, the \$3,000,000 of the new loan has been negotiated, nearly all of which will be required to pay the floating debt.

The double track, which is in progress, was estimated by Mr. Loder to cost \$10,000 per mile. Provided this was completed and paid for, its cost would account for \$1,250,000 of the increased expenditure over estimate. No part of the double track is completed, however, and only a portion of its cost paid for.

We contend that the dividends paid since the opening of the road, and the recent mortgage of \$10,000,000 are breaches of good faith on the part of the company. At the time that the several unsecured loans were negotiated, the public were assured that the present sums sought to be borrowed were all that were needed to complete the road. Each subsequent loan weakened the security of the previous one. Are not the stockholders in good faith bound to redeem the pledges given? Have they a right to create further debts, and still appropriate to themselves money apparently earned, but needed to pay such debts? We answer, no. And further, have they a right to create a debt, under

the express statement that no further sums would be required to complete the road, and then make these very sums—so borrowed and expended upon the road—the basis of a mortgage which takes precedence of them, and which may render them entirely worthless? We contend that this is a flagrant outrage upon all honest dealing, which will neither be sanctioned by the public, nor by the deliberate judgment of the stockholders, when they have had time to reflect upon the matter, and for which they should not be held responsible. We think it to be an act unjust in itself, and calculated to throw great suspicion and distrust over all our railroad negotiations and securities, and for which the whole of this vast interest must suffer. How will foreigners, who can look upon our acts with impartial eyes, regard such proceedings? If this is the way that our railroads are to be managed, we fear that we shall have poor credit in that quarter, to say the least.

#### Steubenville and Indiana Railroad.

Mr. POOR:—

I have just seen an "Exhibit of the affairs of the Steubenville and Indiana Railroad Company," accompanied by a map of the road and connecting lines, which was issued on the 1st of October last; and find upon the map such a marked error in the distance indicated for our road and one of its connections as to induce me to ask through your journal a correction.

The length of the Central road (or supposed to be intended for the Central) between Zanesville and Wheeling is stated upon the map to be 94 miles, when the actual distance by location is less than 81 and a quarter miles. The railroad distance also between Wheeling and Greensburg is marked at 83 miles, when the report of the Chief Engineer of that road makes it but about 77 miles. This in any calculation of distances would make the route of the Central Ohio and Hempfield roads about 19 miles less than is generally rated for them, by the Steubenville interest.

Respectfully, J. H. SULLIVAN,  
President of the Central Ohio Railroad  
March 9.

#### Ohio.

**Central Railroad.**—We learn that the work upon the unfinished portion of this road is making very satisfactory progress. The high favor with which the project is regarded, secures ample means for construction as fast as wanted. We learn that a sale of non-convertible bonds issued upon the Eastern division, was recently made in Baltimore, upon terms favorable for the company. The whole issue upon the Eastern division, of 81 miles, is 800,000.

The Western division extending from Zanesville to Columbus, was completed some time since, and is now in possession of a lucrative traffic. The bonds issued upon this division, are in demand, at prices varying from 102½ to 105.

#### Georgia.

**Southwestern Railroad.**—At a meeting of the board of directors of the Southwestern railroad, held in Macon on the 10th inst., a dividend of four dollars per share was declared for the six months ending on the 31st ult. At a subsequent meeting of the stockholders, held on the same day, the following gentlemen, constituting the present board of direction, were re-elected for the ensuing year:

L. O. Reynolds, President; R. R. Cuyler, J. W. Anderson, W. A. Black, W. S. Holt, A. H. Chap-  
pel, directors.

#### Cost of Transportation by Railroad.

We find annexed to a report of the committee of stockholders of the Western railroad, appointed to examine into the system of accountability in the collecting and disbursing departments; and also the condition of the property of the company; a letter addressed to the committee by the president of the road, W. H. Swift, upon the subject of the cost of transportation.

As this letter presents the results of the operation of a number of the most important railroads in Massachusetts, for a series of years past, we give below all of it that has direct reference to the subject under discussion.

WESTERN RAILROAD OFFICE,  
Boston, Jan. 24, 1852.

A. H. BULLOCK, Esq., Chairman, &c.

SIR:—Referring to your communication of the 13th inst., and to the conversations since had with you upon the subject of the Western railroad, I have thought it might be well to extend some of the remarks heretofore made to you, and to make some further statements in writing, by means of which the committee, if it should desire to do so, might compare the expenses of repairs, work done, &c. on the Western road, with those of other roads in Massachusetts. To enable me to do this satisfactorily, I have resorted to the official returns made annually to the legislature, say from 1846—the first year in which the returns were made in their present form—to 1850, inclusive; and have extracted from them such data as have appeared to me to be necessary to exhibit the details, which I wish to bring to the notice of the committee.

In matters pertaining specially to the Western road, not detailed in the returns made to the legislature, I shall endeavor to confine my statements to such facts as I have gathered from reliable sources, omitting all for which I have not warrant.

For convenience of reference, and to enable me to present comparative results, I shall tabulate the information derived from the legislative documents.

The expenditures are classed in the official reports under three general heads:

1. Expenses relating to the road itself, including all repairs of track, road bed, bridges, renewals of iron, wages of switchmen, gate keepers, &c.; all that is included in the returns under the head of "Maintenance of Way."

2. Expenses of repairs of engines and cars, and for new engines and cars to cover depreciation.

3. Miscellaneous expenses, embracing fuel, oil, salaries, gratuities, damages, &c.; in short, all expenses not included under the first and second heads.

It is principally the expenses under the first and second heads, which we wish to discuss, viz., maintenance of way and repairs of engines and cars. These items should be combined and considered together, for they are part and parcel of each other,—nothing being more true in the working of a railroad, than that, if the repairs of a road are neglected, the consequences are immediately shown in the enhanced cost of repairs of engines and cars; together they make up the road and equipments. To enable you to judge whether this has been done in the case of the Western, and whether, in comparison with other roads, as much has been done by it as should have been done, I submit the tables before referred to.

The first table, marked A, contains the cost of Maintenance of Way and Repairs of Engines and Cars, per mile run, in five years (1846 to 1850 inclusive,) on the Western, Boston and Worcester, Boston and Maine, Boston and Lowell, Fitchburg, Eastern, Boston and Providence, and Old Colony railroads.

It will be seen by this table that, during the five years specified, the aggregate of miles run by all the trains, on all the roads named, amounted to 13,755,550 miles; and that the aggregate sum expended by all for maintenance of way, was \$3,004,563; and for repairs of engines and cars, \$1,879,330; and that the total expenditure, for both these objects, was \$3,883,893.

The table will further show the average amount

expended by each road, per mile run, during the five years.

The general result furnished by this table is this: The average sum paid for maintenance of way on any one road, per mile run, by trains, during the five years, was 23.41 cents. The least average of the same was 8.17 cents, and the mean of the whole was 14.57 cents.

The largest average sum paid for repairs of engines and cars, for the same time, per mile run, was 24.65. The least average of the same was 3.39, and the mean of the whole was 13.66 cents.

The largest sum paid by any one road, in any one year, for maintenance of way and repairs of engines and cars combined, was 49.8 cents; and the least sum paid by any one road for both, 11.4 cents; and the mean of the whole was 28.23 cents per mile run for both.

In the case of the Western, its maximum (1847) for both was 39.4 cents, its minimum (1850) was 30 cents, and its average for the five years, 33.22 cents.

Some of these lines have two tracks, and some but one. The effect of the double tracks would, of course, be to distribute the work done over a larger extent of rails; the single track being relieved, its expenses of repairs should, in such case, of course be less; in other words, it should not cost twice as much to maintain a road with two tracks as it would to maintain it with one.

Computing the cost of maintenance of way and repairs of engines and cars, by the actual length of each road, without regard to the number of tracks, it will be ascertained that one line has cost, upon an average of the five years, \$4,352 per mile per annum; that another has cost \$3,009 per mile per annum; and that all others range between \$1,586 per mile per annum, and \$1,108 per mile per annum.

In the Western, the average of the five years was \$1,586 per mile per annum.

The next table B, contains a statement of all the work done on all the roads before named in five years (1846 to 1850 inclusive.) It exhibits, also, the entire cost of doing this work; that is to say, all three classes of expenses are included, being the amount expended of every kind, except interest on capital.

In order that a comparative statement of the work done on the several roads may be presented, it will be necessary to assume, that it costs as much to transport a passenger one mile, as it costs to transport a ton of freight one mile; and while we know that this is not true in all cases, we do know that it is true in some cases. For the purposes of this comparison, however, it is immaterial whether we assume the cost of the passenger to the freight to be as 1 to 1, or as 1 to 2. Together, they constitute all the work that has been done upon all the roads; and it is resolved into one passenger carried one mile, or one ton carried one mile. Another table will show the proportion of each carried.

The general result furnished by table B is as follows:

759,390,026 passengers or tons of freight were transported one mile on all the roads named, during the five years specified, at a gross cost of \$10,977,839; and to do this work, the trains ran 13,755,550 miles.

The table will show that the maximum cost was 1.994 cents per passenger or per ton, carried one mile; the minimum do., 1.302 cents do. do.; and that the mean or average of the whole was 1.445 cents per mile.

In the Western, its figures stand: 213,925,952 passengers or tons, carried one mile, at a gross cost of \$2,937,593; and the average or mean cost, 1.373 cents per mile.

The next table, C, will show the useful effect produced—being the amount of available or paying work done for each mile run by trains in the five years (1846 to 1850 inclusive) expressed in passengers, or in tons, carried one mile.

The general result is this: 13,755,550 miles were run by trains, and 759,390,026 passengers or tons of freight were moved one mile, and the average number of passengers or tons of freight carried for each mile run by trains was 54.12. The maximum number was 68.4; the minimum, 40.0; mean, 54.12.

In the case of the Western, 3,696,713 miles were

run by trains; aggregate of passengers and tons carried, 213,925,952; average number carried for each mile run, 57.9.

It will be observed that no allowance has been made to compensate for the 2,000 feet and upwards of elevation, which the Western road has to overcome between Albany and Worcester, nor for the heavy grades by which the principal summit is passed. It is plain to be seen, however, that with grades not exceeding those of the roads with which the comparisons are made, a large increase in the number of tons transported for each mile run would be exhibited in the table.

Table D exhibits the number of passengers carried one mile, and the number of tons of freight carried one mile; it shows, also, the amount received for passengers, and the amount received from freight, separately stated; the gross expenses, and the percentage of expenses to the gross receipts; all for the five years before specified, and for the same roads.

## RESULTS OF THE TABLE.

490,838,686 passengers carried one mile.	
268,551,340 tons of freight " " "	
759,390,026 " of both " " "	
Maximum of both for one road.....	\$213,925,952
Minimum " " " " " " " " " "	36,198,135
Receipts from passengers.....	11,015,052
" " freight, &c.....	10,729,466
Gross receipts.....	21,744,518
" expenses.....	10,977,839
Maximum cost per cent. of receipts..	65.9
Minimum " " " " " " " " " "	42.3
Mean of the whole.....	50.4

For the Western, the results furnished by the table are:

94,960,518 passengers, one mile.	
118,965,434 tons of freight " " "	
213,925,952 aggregate.	
Receipts from passengers.....	\$2,595,538
" " freight, &c.....	3,653,601
Aggregate receipts.....	6,249,139
Gross expenses.....	2,937,593
Expenses per cent. of receipts.....	47.0

It will be seen that there is but one road in the table on which the number of tons carried exceeds the number of passengers carried, and this is the Western, which has an excess of tons of freight over passengers, of upwards of 24,000,000.

In one of the roads, with an aggregate of passengers and tons of 74,720,000, the excess of passengers carried beyond tons of freight is upwards of 60,000,000, in number, it will be evident, therefore, that the Western railroad derives no benefit from a comparison of the indiscriminate cost of transporting a passenger and a ton of freight, one mile; on the contrary, had the excess in the case of the Western been on the side of passengers, the result in point of numbers and cost would have been more favorable even than it now is—passengers moving themselves without cost, while freight requires an average expenditure of 27 or 28 cents per ton, for loading and unloading.

Having thus gone through the principal business and expenses of the road, and compared it with those of other roads, by means of returns furnished by official or legislative documents, I will now take up some other matters relating to the Western road, furnished by our own records and returns the details of which do not appear in the legislative reports.

The committee, as I understand, have gone into a thorough examination of the present condition of the property of the corporation; the road, its equipment of engines and cars, bridges, station-houses, &c. &c. I will therefore restrict my remarks to the renewals of cross-ties or sleepers, iron rails, freight cars, and Connecticut river bridge.

1st, *Sleepers*.—The number of sleepers removed from the track, and replaced by new, in the Western railroad, between 1st December, 1845, and 1st December, 1851, 6 years, was as follows:

Year ending November 30, 1846.....	35,000
" " " " 1847.....	85,000
" " " " 1848.....	65,000
" " " " 1849.....	28,245
" " " " 1850.....	50,188
" " " " 1851.....	38,914

Total sleepers in 6 years..... 302,357

Average number supplied per annum..... 50,390

The life of a sleeper depends upon the kind of timber used, the nature of the soil in which it is laid, the kind of usage which it receives, and, to some extent, whether it be laid in a crooked part of the road or upon a steep grade, these last affecting the fastenings, spikes, &c.

In loam, experience in the Western road has shown that a sleeper will last but about five and a half years; in sand, six and a half years; in dry gravel, seven years; in moist gravel, seven and a half years; average duration of all kinds, say six and a half years.

The second track between Worcester and Springfield, was not laid until 1847—48, the sleepers in that track, therefore, have not required to be renewed as yet. The renewals have been confined, in general, to the main or old track. The number of sleepers in that track is about 275,000, requiring for renewals, at the rate of six and a half years life, about 42,200 sleepers per annum.

The table shows that 50,390 have been laid per annum since 1845, or a surplus of 8153 per annum have been put into the road and these are fully sufficient for all side tracks, switches, &c.

Second, *Iron Rails*.—The quantity of rails which have been laid down in place of the 56 lbs. iron (original rail) in the old main track, is as follows:

Year ending Nov. 30, 1848.....	Miles.	Feet.
" " " " 1849.....	4	1327
" " " " 1850.....	8	3071
" " " " 1851.....	16	1155
" " " " 1851.....	12	2625

The life of a rail depends, generally, upon its weight and section, the quality of iron of which it is made, the kind of support, the distance between the bearings, the quantity of work done upon it, and the manner in which it is done, whether with heavy engines and trains, or the reverse, whether on a crooked or steep part of the road, whether laid upon good material for the road-bed etc. All these elements combined with some of less importance, determine the question of the life of the rail. Of two rails of the same section, from the same mill, placed upon the road at the same time and subjected to the same amount of work, one may be perfectly serviceable at the end of ten years, or more, while the other may require to be taken up and replaced before it has been down a single year, the defect being in the manufacture and disclosed by use, only.

The practice in the Western road is to remove the rails from the main tracks as fast as important defects appear. It is well known to railroad people that the first iron used in this country for rails, was the best we have had from the other side, but the iron then purchased cost £12 to £15 per ton, whereas that which now comes, costs about £5.—It is not to be supposed that we get as good iron at the £5, as we formerly paid three times five for, and the inference is borne out by the facts in the case of the Western railroad. The number of old 56 lb. rails which it is necessary to remove from the track after twelve years service is much less in proportion to those of the 70 lb. rail than would be supposed.\*

The excess in weight of the new laid iron over the old, is almost 14 lbs. per yard, in the aggregate 900 tons, and in value at \$45 the ton, (costs and transportation) \$40,500.

In addition to the quantity of iron specified in the table, it will be seen by the report of the directors for the year 1847,\* that new rails to the amount of \$33,000 were used and charged to the current expenses of that year.

In reference to the condition of the road-bed, it may be proper to say that a gravel train has been run a large part of every season during the last seven years, employed in widening and raising banks, clearing ditches and to some extent in removing bad bottom from the road bed, etc., all forming a part of the charge to maintenance of way.

I have consolidated the results of the several

\* The Reading railroad, said to have a greater tonnage per mile per annum, than any road in existence, has still in use a large number of the original rails, those laid down when the road was built, in the year 1839, I think.

tables, A. B. C. D. and have so classified the more important items that the work done, cost of same, and the useful effect produced in the eight roads specified, can be seen together and compared, and it gives me pleasure to add that in the comparison, I think the Western appears quite as well as its neighbors.

Very respectfully,

Your obedient servant,  
W. H. SWIFT, President.

STATEMENT, showing cost of maintenance of way and of Engines and cars, on each of the following roads, per mile run by trains, from 1846 to 1850, inclusive, five years.

Roads.	Miles run by trains.	Maintenance of way.	Do. per mile.	Repairs of engines and cars.	Do. per mile.	Total per mile.
Western.....	3,696,713	630,049	18.66	637,651	14.56	33.22
Boston and Wor.	2,003,632	321,521	15.72	335,621	17.23	32.95
Boston & Maine.	1,812,422	296,136	11.37	191,209	10.55	21.92
Fitchburg.....	1,557,937	127,307	8.17	148,366	9.39	17.56
Boston and Lowell.	1,202,088	263,440	22.41	296,380	24.65	47.06
Eastern.....	1,356,136	142,048	10.45	97,659	7.20	17.65
Boston and Providence.	1,165,079	158,328	13.07	133,136	11.42	24.49
Old Colony.....	901,543	95,734	10.57	109,318	12.12	22.69
	13,785,556	2,004,563	14.57	1,879,330	13.66	28.23

STATEMENT showing the quantity of work done in five years, (1846 to 1850, inclusive,) on each of the following roads, expressed in passengers carried one mile and in tons of freight carried one mile; also, the gross expenses of each road for the same period. For the purposes of this comparison, the cost of transporting a passenger one mile, and a ton of freight one mile, is assumed to be the same.

Roads.	No. of pass. and number of tons carried one mile.	Gross expenses.	Cost per passenger, or per ton, per mile.
Western.....	913,925,952	2,937,593	1.373 cents.
Boston and Worcester.....	126,499,456	1,899,845	1.502 " "
Boston and Maine.....	92,997,700	1,237,515	1.330 " "
Fitchburg.....	82,702,400	1,077,169	1.302 " "
Boston and Lowell.....	82,227,452	1,298,519	1.535 " "
Eastern.....	74,720,643	995,065	1.318 " "
Boston and Providence.....	50,118,288	860,320	1.716 " "
Old Colony.....	36,198,135	721,912	1.994 " "
	759,390,026	10,977,839	1.445 cents.

STATEMENT showing the useful effect, or work done for each mile run by trains, on the following roads from 1846 to 1850, inclusive, expressed in passengers and tons of freight carried one mile.



## ORIGINAL SINGLE TRACK.

41½ miles × 100 tons × \$45 = ..... \$186,750.00  
 114½ " × 100 " × \$45 = ..... 515,250.00  
 156 " Cost, \$702,000.00  
 \$186,750.00 a 4.44 + pr ct. × 20 y'rs = \$166,000.00  
 \$515,250.00 a 2.22 + pr ct. × 20 y'rs = 229,000.00  
 \$702,000.00 a 2.81 + per cent. per annum ..... \$395,000.00

If these computations be correct, the average annual expenditure to the Corporation, for maintaining the rails of the original single track, will be \$19,750.00. It will be borne in mind that only 41½ miles have been thus far renewed, or about one quarter of the original single track; and that the rest, or 114½ miles, will have to be relaid, within the next 10 years or thereabouts, say an average of 8 years. This will involve an expenditure of \$229,000.00, or an average annual demand upon the income of the Corporation of \$22,900.00. The renewals requisite to maintain the iron in the second track, at the end of the said 20 years will have amounted to \$80,400.00, or an average outlay, during the next 10 years, of \$8,040.00. Bringing these results together, it is found that during the next 10 years the income of the road will be taxed \$39,240.00 per annum for the renewal of its rails, as follows:—

## ORIGINAL SINGLE TRACK.

14½ miles ..... \$ 8,300.00  
 114½ miles ..... 22,900.00  
 SECOND TRACK.  
 46 miles ..... \$ 8,040.00  
 \$39,240.00

In making these calculations, the Committee have carefully endeavored not to undervalue this item of depreciation; but, on the other hand, they are persuaded their estimates will be found to exceed, rather than to fall below, the truth.

For the Railroad Journal.

## The Applicability of Suspension Bridges to Railways.

In an article of this length, it would be impossible even to refer to the many arguments that might be brought, to prove the applicability of suspension bridges to railway purposes, but a few of the principal reasons may be presented.

There never yet has been a suspension bridge constructed, intended by the designer for railway travel; and consequently, correct conclusions respecting the practicability of a structure which has not yet been built, can only be come to by properly understanding the principles which govern it, and its use.

The only bridge known to the public, built upon the suspension principle, that has had locomotive trains upon it, was on the line of the Stockton and Darlington railway, in England.

This bridge had been built for common road travel, but, being in a position to be used by the railway company, the track was laid on it, and a trial made. Mr. Stephenson, when giving evidence before a parliamentary committee, sitting on a matter which related to the Britannia tubular bridge, stated, that the platform of the suspension bridge referred to rose up three feet before the locomotive at ordinary speed; and that the entire work was nearly destroyed by the passage of the train. [See E. Clark's Britannia Tubular Bridge, vol. 1, p. 63.] Piles were driven into the bed of the river, and the roadway of the bridge secured to them. Still the structure was deemed useless, as the piles were alternately drawn out and driven in again, by the action of the chains and the loads on the track. [See E. Clark's Britannia Tubular Bridge, vol. 1, p. 41.] Yet, astonishing as it may seem, when the question is investigated, this is the only practical data upon which the sweeping con-

clusions against suspension bridges for railways, which are so frequently made, have been founded.

Now, upon what conditions will the proper strength and stability of a suspension bridge for railways depend? As to the strength required to sustain a stationary load, there can be but one opinion, viz. that anything desirable can be attained. If one cable, or bar, or wire, will sustain a given load, two cables, bars, or wires, of corresponding length, will sustain twice as much; and, by increasing the strength of the cables indefinitely, the bridge will be capable of sustaining a corresponding load.

Vibrations and oscillations, which are the only real difficulties, can be overcome, for stiffness and stability depend upon principles equally simple with those which govern the amount of strength required for a stationary load. If the load to be moved on any body in equilibrium, bears such a proportion to the body on which it is to move, that its momentum will readily overcome the inertia of the quiescent body, a disturbance will ensue, and in a proportion of one body to the other; but when the momentum of the moving body is small compared to the inertia of the body in equilibrium, the effect will be little, to such a degree that it may in many cases be imperceptible.

All matter has a tendency to remain at rest, or to move with uniform motion, unless disturbed by secondary causes. And as it requires a certain absolute force, either to move any thing from its state of rest, or to stop it when in motion—it is quite evident, that if the force exerted to move a ponderous body, is not sufficient to overcome its inertia or tendency to remain at rest, it will not be moved.

These principles may be applied to suspension bridges for railways. Let the bridge be made so heavy, that the momentum of the train will not overcome the inertia of the bridge, or, its natural tendency to remain at rest—and of itself, without any other condition, it will be stationary. In practice, however, such an excess of strength and stability will not be necessary. As the bridge will be in equilibrium, or balanced, one part cannot sink without lifting some corresponding part; the middle cannot sink without raising the haunches, and one end cannot be depressed without raising the other.

It is known in practice that an ordinary load may pass over a slight suspension bridge at the rate of three or four miles per hour without injuring it.

Loads equal to one-twelfth the entire suspended weight of the Wheeling, Lewiston and Fribourg bridges, respectively, have been passed over them at the rate of three or four miles per hour without injury to the structure, and without producing such deflections or vibrations as would prevent the passage of a locomotive and train with safety. These bridges are of very great spans, being 1,010 feet, 1,040 feet and 870 feet between the points of support in the order named.

As the degree of inflexibility of these bridges depends mainly on their weight; why should not the conditions remain the same if the weight of the bridge and the loads are increased proportionally—that is, if a railway bridge of corresponding span was made as heavy in proportion to the trains to go over it as the bridges now built are to the loads which go safely over them, why should it not remain as still and unaffected in one case as in the other.

Due allowance must be made for the additional force of a train arising from the increased speed

and the irregularities of the machinery; but the quantity of this force is determinable.

Heavy parapets of timber or metal may be used to give additional rigidity to the structure, and trusses may be employed in some cases; but owing to the difficulties of combining straight lines with curves and catenaries, it would be safer to depend upon the inertia or weight of the bridge only for its stiffness; adding, such combinations to the roadway as will readily conform themselves to the slight changes which will occur in the form of the curve of the cables arising from their expansion and contraction, by changes of atmospheric temperature.

Independently of the fact that suspension bridges may be constructed where no other can be built (at least on any plan now known) their comparative cheapness, should entitle them to consideration even where shorter spans on piers might be erected.

The great durability of the material employed and the short time required to construct them of the greatest magnitude, are also very important considerations in their favor.

It is to be regretted that so much time and talent has been employed in discussing the objections to, instead of endeavoring to overcome the difficulties of a combination, which of all others is most applicable to the very great spans, which are to be met with on this continent; but fortunately the spirit of investigation has of late been directed to this subject, and results are to be looked for of the most beneficial character.

E. W. SERRELL, C. E.

New York, March 9, 1853.

## Potsdam and Watertown Railroad.

At the annual meeting of stockholders of this corporation, held at the village of Gouverneur, on the second day of February instant, Joseph H. Sanford, Zenas Clark, Orville V. Brainard, Hiram Holcomb, Edwin Dodge, William E. Sterling, Barzillai Hodskin, Arunah M. Adsit, William W. Goulding, Samuel Partridge, Howell Cooper, Ebenezer Miner, and Hiram B. Keen, were elected directors.

And at a subsequent meeting of directors, the following officers were appointed:

Edwin Dodge, President,  
 Zenas Clark, Vice President,  
 Daniel Lee, Treasurer,  
 Henry I Knowles, Secretary.

A better board of directors could not, in our opinion, have been selected.

## Ohio.

**Hillsboro' Railroad.**—We stated a week or two since that the entire line of the Hillsboro' railroad, from Hillsboro' to Parkersburg, had been placed under contract. The contract has been taken by competent and responsible contractors, who would not engage in the work without seeing their way clear, not only to a good job, but that sufficient means would be forthcoming to carry the work vigorously forward.

We also learn that an arrangement has been completed with the Baltimore and Ohio railroad, by which the transportation of passengers and merchandise passing over the Parkersburg branch, is secured to the Hillsboro' road. An arrangement which is believed by the friends of the latter to add very much to the strength and credit of this enterprise.

From the well known reputation which the contractors possess for energy of character and ample

means, we anticipate that very rapid progress will be made in the work of construction.

## American Railroad Journal.

Saturday, March 12, 1853.

### County Railroad Bonds.

As in the more recently settled states, the *credits* of counties and municipal corporations are often used to provide the means for the construction of railroads, and will probably continue to be, to a considerable extent, for some time to come—some account of the value of these credits, and the reasons which exist for using them, will, we think, be acceptable to parties desiring to invest in such securities.

The *credits* of counties and cities are resorted to as a general rule, only where the private means of those engaged in the construction of a particular line of railroad, may be inadequate to this object; or where, from the value of money for other purposes, it may, upon the whole, be the better economy to borrow the means for the new enterprise, than for the leading individuals of a community to embarrass themselves by investing outside of their regular business too large a portion of their capital. Such are some of the principal reasons in favor of the use of the credits of counties and cities in the construction of railroads. Another is, that when credits have to be resorted to, a large sum may often be saved by the use of the *aggregate* credits of all the members that compose a community, over those of a few *individuals*. Money can often be had upon the former, at rates at which it would be impossible to borrow it, upon the strength of the names of *private* parties.

Were we always certain, that the money obtained upon the credits of communities in the *aggregate*, would be equally well expended as that furnished by private capital, and that the property, in either case, would be equally well managed—the former would certainly be the proper mode in which to raise it. It would certainly be the most *equitable* mode. A railroad traversing a county, for instance, may double the value of all the real and personal property in it. Every inhabitant, consequently, is benefited in proportion to the *amount* of property he owns. It is but just, therefore, that the *burden* and the *benefit* should go together. In fact, the burden of constructing a railroad can be equitably distributed, in no other manner than by assessing its cost upon every member of the community, in proportion to the degree in which he will be benefited by it. The *justness* of this mode of raising money for such works as railroads—which are, in fact, public enterprises—often determines the question in its favor, when other considerations may render such a step of doubtful expediency.

We are not aware of any instance in which such credits have been misused, or their proceeds applied to any other than their *appropriate* objects. That they have accomplished a vast good, there can be no doubt. Without them, many of the most important works in the country could not have been built; and, instead of the vast extent of line which we can now show, we should hardly have made a respectable commencement. Without the aid extended by the state of Massachusetts, the Western and other important roads in that state could not have been built. The city of Albany also contributed \$1,000,000 to the former. The construction of the Baltimore and Ohio, and the Pennsylvania

roads, could not have been accomplished, without the corporate aid of Philadelphia and Baltimore. The same may be said of the most important roads in the eastern states. If such be the fact in the oldest and richest sections of the country, how much more needed is such aid when we go south and west—portions of the country which have less available means for these works, but where their want is even more thoroughly felt. But for the aid extended by the cities of Cleveland and Cincinnati to the roads of which they are the termini, the most important and productive lines of railroad in Ohio could not have been built. The results secured to the city of Cleveland, by the aid she extended to a number of important lines terminating at that place—is a striking illustration of the advantages of municipal aid to such works. The entire aggregate of her subscriptions, we believe, was only \$400,000. This comparatively trifling sum has been the means of constructing a number of first class roads, which, from the commerce and trade already secured, have not only proved sources of extraordinary prosperity, but the entire amount of her subscriptions, if to-day offered in the market, would command from 10 to 25 per cent. premium. The money contributed was well laid out, the works have been well conducted, and the investment has proved to be an exceedingly productive one. Such has been the case, in every instance, in the states of Ohio and Indiana, where the roads to which they were issued have been in operation a sufficient length of time to demonstrate their capacity for business. As far as such subscriptions have been made throughout the country, we believe they have been judiciously extended and generally productive.

Having given, in general terms, the objects and reasons that exist for the use of county and city credits in the construction of railroads, and without which, in some portions of the country, these works still cannot be built—we will endeavor to present a correct idea of the *legal* rights secured to purchasers of such securities.

That counties and cities are competent to make *valid* subscriptions to the stock of railroads (Legislative permission having been first obtained,) is now well settled by the judicial tribunal of all the States where the legality of such subscriptions have been contested. Such subscriptions are regarded in the light of *contracts*, binding upon every person residing in the community by which they are made. To deny this right, would be to deny the right of a city to do any act involving the expenditure of money for the general or public good, the right to construct works, the object of which is to introduce water or light into a city, or to do a thousand acts which contemplate the benefit of all, the advantages of which however must always operate unequally, and to which a very large portion of a community may be opposed.

The competency of the municipal bodies to make subscriptions to railroads has been so repeatedly settled in the Eastern States, that it is not now questioned. Similar decisions have been had in Ohio and Kentucky, and other Western and Southern States. The leading case in Ohio was that of the *Cincinnati, Wilmington and Zanesville Railroad vs the County Commissioners of Clinton County*, the decision in which we published in the number of the Journal under date of March 27th 1852. In this case the Court held that—

"It is held competent for the legislature under the constitution to construct works of internal improve-

ment on behalf of the state, or to aid in their construction by subscribing to the capital stock of corporations created for that purpose, and to levy taxes to raise the means: and by an exercise of the *same power*, to authorize a county to subscribe to a work of that character running through or into such county, and to levy a tax to pay the subscription.

Such a tax, when thus authorized, is not beyond the legitimate scope of local, municipal taxation; nor is it opposed to art. 8, sec. 4, of the constitution declaring that 'private property ought and shall ever be held inviolable, but always subservient to the public welfare, provided a compensation in money be made to the owner.'"

The Ohio county subscriptions like those of other States, not only rest for their security upon the *whole* aggregate property of the community, but the additional one, of having the punctual payment, both of principal and interest, secured even against the will of those making it. The Laws of the State make it obligatory upon the proper officers in each county, to assess a sufficient tax to meet both the principal and interest on the bonds as they fall due; and in case of neglect or refusal to do so, the auditor of the State is authorized and instructed to assess such tax and cause the same to be collected in the same manner that the State taxes are collected, and paid over to the holder of such bonds. The prompt payment of such bonds are thus secured beyond contingency, which fact contributes not a little to the high prices which the "Ohio County Bonds" command over those of other States.

As an additional security for the prompt payment of County Bonds, the principal and interest are, as a general rule, guaranteed by the company to which they are issued. The company in this manner becoming responsible, will take good care that sufficient means are seasonably provided by the county to meet the liabilities as they mature. The bonds too, in most cases are made convertible into the stock of the company, (for the payment of which they were issued.) In the event of said stock going to a premium, as has been, and will generally be the case, the means for the payment are in this manner provided, without resort to any taxation whatever, which reduces the liability of the holder to the least possible risk.

The constitutions of Ohio and Indiana now prohibit any further issue of county bonds to railroads. The reasons that led to these enactments, was the belief that the increased means of the people, and the high credit which Western projects have secured for themselves, render the further resort to municipal subscriptions unnecessary. This fact enhances materially the value of those already issued, which were to the earliest and most important enterprises in the State, and which are in no danger of being discredited by an excessive issue of securities of a similar character.

The small amount of the securities issued by the several counties, is an important fact in their favor. In Ohio, in which the largest issues have been made, there is hardly an instance where a county has issued bonds to an amount exceeding \$100,000. The value of the property upon which these securities are based, range all the way from \$5,000,000, to \$20,000,000, and is vastly increased by the construction of the road.

The above remarks will, we believe, convey a correct idea of the character and value of county bonds now offered in the market. Where they have been properly issued to legitimate objects, they rank among the best and safest securities offered,

and are so regarded by our own people. We believe them to be a particularly desirable security to the foreign purchaser, who is content with a lower rate of interest for his money, provided the security be unquestioned. The county bonds gives him a duplicate security; one furnished by the county itself, and the other by the promise of the railroad company.

The objection to the use of these securities is the danger that they may be made the means of stimulating the construction of railroads beyond the wants of the country. That there is need for caution here, we fully admit. We can well imagine that a member of a community may be willing to vote its credit, to a project in which he has not sufficient confidence to take stock *individually*. We are opposed to the construction of railroads upon routes that cannot furnish a considerable portion of the means required for their construction, for reasons that we have often insisted upon. A community that can contribute nothing toward the construction of a road, can probably furnish very little business for its support. There may be exceptions to this rule. There are portions of the States of Wisconsin and Illinois recently settled, that could supply an abundant traffic to railroads, while they can do little toward their construction. All their means are wanted to improve their farms. The ease and facility with which Western soil is brought into cultivation, enables the Western farmer to become a vast producer, although his farm was reclaimed from a state of nature, only a year or two previously. The Indiana and Ohio county bonds, however, are not liable to the objection stated. They have only been sparingly resorted to; and all further issues in both States are forbidden. Those issued in other States may be equally valuable, provided the same moderation be observed, and the same good sense and capacity displayed in the construction and management of their railroads, as has been shown in Ohio and Indiana.

## FORGINGS.

A XLES, SHAFTING, AND OTHER FORGINGS from the GLENDON FORGES, for sale by

**GEORGE GARDNER & CO.,**  
ROCHESTER, N. Y.

March 9, 1853.

### Railroad Iron.

Railroad companies will do well to notice the advertisement of Messrs. J. H. Austin & Co., of London, in reference to the purchase and inspection of railroad iron.

### To Contractors.

We invite the attention of contractors to the advertisement of important lettings, in another column.

### Stock and Money Market.

The past has been a very exciting week in Wall street. There has been a complete panic in fancy stocks, which has affected, by sympathy, all other securities. Money has been in great demand, at high rates, and the stringency has by no means yet abated. The whole trouble is confined to Wall street, and is simply the result of over speculation, assisted by improper facilities granted by the banks; which, having loaned largely upon fancy stocks, and finding they had gone too far, have called in their loans, and shoved the securities into the street. Weak holders, cut off from the source of supply, which has been opened to them for some time past, have been unable to carry their loads, and the great amount of fancies thrown upon the market has caused quotations to fall to a low

figure, the banks, finding themselves too much extended, are doing but little, for the purpose of "strengthening" their positions. The present flurry will be over in a month, probably, as the causes that have produced it are purely local and temporary. Business is in a sound state, and capital is sufficiently abundant for all legitimate purposes. The present pinch in the market is just what was needed to check undue speculation, and bring people to their senses. It will clear out of the street a great deal of the worthless stuff with which it has been crammed, and which, from the inflated prices which they have reached, absorbed a great amount of money.

We think the banks are, after all, the most culpable parties in this speculative movement, which has resulted so disastrously; the new ones the most so. These have been created much faster than they were required by the increase of business. Consequently, they are compelled to go into the street to solicit the acceptance of loans, instead of waiting for people to come to them. Very large loans were made upon the prominent fancies, and, as soon as the popular caprice whistled that these securities were comparatively worthless, they dropped them as they would a hot potato, to use the homely phrase. To the above causes is to be ascribed the enormous size to which these bubbles were blown, and their sudden collapse. Banks have no right to touch fancies at all. If they do, they ought, for the sake of consistency, to hold in foul weather as well as in fair.

The demand for first class western securities continues good, at fair prices, and the prospect is that the market will continue to take all offering.

## Railway Share & Stock List;

CORRECTED WEEKLY FOR THE  
AMERICAN RAILROAD JOURNAL.

NEW YORK, MARCH 12, 1853.

### GOVERNMENT AND STATE SECURITIES.

U. S. 5's, 1853	100
U. S. 6's, 1856	107
U. S. 6's, 1862	116
U. S. 6's, 1862—coupon	115
U. S. 6's, 1867	119
U. S. 6's, 1868	120
U. S. 6's, 1868—coupon	120
Indiana 5's	99
Indiana 2 1/2's	56
Canal loan 6's	96
Canal preferred 5's	37
Alabama 5's	98
Illinois 6's, 1847	92
Illinois 6's—interest	62
Kentucky 6's, 1871	110
Maryland 6's	108
New York 6's, 1854-5	108
New York 6's, 1860-61-62	117
New York 6's, 1864-65	120
New York 6's, 1 y., 1866	120
New York 5 1/2's, 1860-61	111
New York 5 1/2's, 1865	112
New York 5's, 1854-55	106
New York 5's, 1858-60-62	108
New York 5's, 1866	113
New York 4 1/2's, 1858-59-64	101
Canal certificates, 6's, 1861	104
Ohio 6's, 1856	104
Ohio 6's, 1860	109
Ohio 6's, 1870	115
Ohio 6's, 1875	117
Ohio 5's, 1865	106
Ohio 7's, 1851	105
Pennsylvania 5's	98
Pennsylvania 6's, 1847-53	99
Pennsylvania 6's, 1879	101
Tennessee 5's	95
Tennessee 6's, 1880	101
Virginia 6's, 1866	110

### CITY SECURITIES—BONDS.

Brooklyn 6's	106
Albany 6's, 1871-1881	107
Cincinnati 6's	103
St. Louis	101
Louisville 6's 1880	98
Pittsburg 6's, 1869-1871	102
New York 7's, 1857	108
New York 5's, 1858-60	101
New York 5's, 1870-75	103
New York 5's, 1890	104
Fire loan 5's, 1886	—
Philadelphia 6's, 1876-90	107
Baltimore 1870-90	109
Boston 5's	102

### RAILROAD BONDS.

Erie 1st mortgage, 7's, 1867	118
Erie 2d mortgage, 7's, 1859	107
Erie income 7's, 1855	96
Erie convertible bonds, 7's, 1871	97
Hudson River 1st mort., 7's, 1869	104
Hudson River 2d mort., 7's, 1860	98
New York and New Haven 7's, 1861	106
Reading 6's, 1870	93
Reading mortgage, 6's, 1860	96
Michigan Central, convertible, 8's, 1860	111
Michigan Southern, 7's, 1860	102
Cleveland, Col. and Cin. 7's, 1859	123
Cleveland and Pittsburg 7's, 1860	102
Ohio and Pennsylvania 7's, 1865	109
Ohio Central 7's, 1861	98

### RAILROAD STOCKS.

[CORRECTED FOR WEDNESDAY OF EACH WEEK.]

	Mar. 3.	Mar. 10.
Albany and Schenectady	115 1/2	115 1/2
Boston and Maine	105	105 1/2
Boston and Lowell	105 1/2	106
Boston and Worcester	103 1/2	102 1/2
Boston and Providence	88 1/2	89 1/2
Baltimore and Ohio	87 1/2	86
Baltimore and Susquehanna	32 1/2	34
Cleveland and Columbus	125	127 1/2
Columbus and Xenia	—	—
Camden and Amboy	150	150
Delaware and Hudson (canal)	130	119
Eastern	96 1/2	98
Erie	87	82 1/2
Fall River	104 1/2	105
Fitchburgh	101 1/2	102
Georgia	—	—
Georgia Central	—	—
Harlem	67	64
" preferred	115	109
Hartford and New Haven	129	129
Housatonic (preferred)	35	35
Hudson River	65	62 1/2
Little Miami	118 1/2	116 1/2
Long Island	38	35 1/2
Mad River	99	99
Madison and Indianapolis	104	105
Michigan Central	107	106
Michigan Southern	125	123
New York and New Haven	111 1/2	109 1/2
New Jersey	136	136
Nashua and Lowell	—	—
New Bedford and Taunton	117	117
Norwich and Worcester	51 1/2	49 1/2
Ogdensburg	27	26
Pennsylvania	50	50 1/2
Philadelphia, Wilm'gton & Balt.	38 1/2	37 1/2
Petersburg	—	—
Richmond and Fredericksburg	105	105
Richmond and Petersburg	35	35
Reading	91	88 1/2
Rochester and Syracuse	129	129
Stonington	57	56 1/2
South Carolina	122 1/2	122 1/2
Syracuse and Utica	144	144
Taunton Branch	115	115
Utica and Schenectady	149	149
Vermont Central	19 1/2	17 1/2
Vermont and Massachusetts	18 1/2	19
Virginia Central	40	40
Western	100	101 1/2
Wilmington and Raleigh	57 1/2	57 1/2

### Railroad Lanterns.

Our readers will find an advertisement of every variety of railroad lanterns in another page

**Railway Exhibits.**

Having completed a vast extent of line of railroads, the great want now felt, and admitted on all hands, is better information respecting their cost, mode of construction, expenses of running; in fact, whatever can help to form a correct idea of the value of this kind of property. Our railroad companies are equally interested with the public, in having their condition fully understood. The more that is known of them, the better price will their securities command. The great majority of them are legitimate enterprises, got up for proper objects, and are managed with fidelity and economy. They have nothing to fear from any publicity to which their acts may be subjected, as investigation only serves to give them increased strength both at home and abroad.

No person is competent to invest with safety in railroad securities without being thoroughly conversant with all matters relating to the cost of constructing and operating a road. A great many projects may present a very creditable appearance on paper, the securities of which have no real merit or basis. The stock may be subscribed as represented, but the greater part of this stock may be taken by parties, who by being in some way connected with the construction or management of the road expect to make out of the work an amount equal to their stock; in other words their stock is a bonus for services rendered or promised. Or it may be that an old grade, or a charter that confers special privileges, is bought up by parties and estimated at a certain sum, for which an equivalent amount of stock is issued, which cost the owners little or nothing, and which in fact may be comparatively worthless as far as it constitutes any basis for loans. Unless therefore a party is able to detect the *paid* from the fictitious stock, he is liable to be grossly imposed upon. So too with the earnings of a road. The actual cost of operating it, and the proportion of *gross* and *net* receipts, should be thoroughly understood, otherwise a person is likely to be deceived in this matter. It may turn out, when the fact can be no longer concealed, that a portion of the expenses has been charged to *construction* account, and that the road has been actually losing money at the same time that it has been declaring 8 to 10 per cent dividend. Such things have been done, and an uninformed and unsuspecting public grossly imposed upon. We might go on to multiply illustrations of the danger of being misled by fallacious appearances similar to these adduced, but the above will sufficiently answer our present purpose.

Capitalists, and all who wish to invest in railroads have it in their power to protect themselves from all danger of loss from the causes named. When a company come into market for money, the capitalist should insist upon having a *voucher* for every estimate. For example: the graduation of the road may be put down at \$1,000,000. There is no mode of disproving the correctness of this charge unless quantities that make up this aggregate be given. Should the details show only 1,000,000 yards of earth, or 100,000 rock work to be done the statement would in its face carry the evidence of its incorrectness. When such details are given, every person of ordinary capacity would be able to detect any improper excess of expenditure. The results of *well* managed concerns would supply him the correct data, applicable to all others; and with such evidence constantly before him, he would soon become an adept in correctly estimating the cost of work, and be able to act understandingly

and safely as far as construction was concerned. So too with the running of a road. What are claimed to be its *net* receipts may be impeached in a similar manner, and the dividends declared may be shown to have been paid out of *capital* instead of *earnings*. Companies often estimate their net earnings higher than they really are. To determine what they have been, a person must know what it costs to operate a road. For instance the Erie railroad company tell us that it cost them 95½ cents the past year to move one ton of freight, or one passenger, per mile over their road. The Massachusetts companies on the other hand assure us, that experience has shown that upon the leading roads in that State it costs 1.445 cents for the same service for which the Erie company charges 9.3 mills. If the Massachusetts companies are authority in this matter (and they have in their favor the results of a long experience upon old roads thoroughly constructed, well managed and enjoying a lucrative business,) then the Erie railroad earned only \$900,000 the past year instead of \$1,800,000 as claimed. We do not make use of the above facts in the present instance for the purpose of discrediting the statement of earnings of the Erie railroad only to show that they differ widely from those of other companies, showing that there must be a miscalculation somewhere.

Another great advantage of full and accurate statements of the condition of a work, in every stage of its progress, as well as when in operation, is the wholesome check that such statements exert upon every species of misconduct, or malfeasance. If an engineer knows that for a series of years he will be compelled to present annual statements of the condition of matters under his charge, he will take good care that his first statement be a correct one. He will be likely to commit no act not reconcilable with it. A proper system of accountability is thus established. When, on the other hand, years are allowed to elapse without any report or statement, either from subordinates, or directors of railroads, indifference, inattention, and finally neglect of duty will be sure to be the result. Directors may be, and often are, unfit for the positions they occupy. In such cases, publicity given to their acts, will, in time, constitute a certain correction of their mistakes. Such statements call forth the criticism of the public, and furnish for the aid of such directors, suggestions and advice from the best informed upon the subjects under discussion. We think we are not without evidences right about us, of the necessity of a better system of accountability than has heretofore prevailed.

The necessity of suitable reports from railroad companies made *voluntarily*, is increased, from the fact that no returns are required in most of the States, under sanctions provided by *law*. We must in such cases have voluntary reports or none at all. Let us have light; and with it will follow faithfulness, thrift, and economy; and in fine, prosperity of this interest, which is now become the one of paramount importance throughout the country.

**Toledo, Norwalk and Cleveland Railroad.**

*Great Earnings.*—We learn that the earnings of this road for the last week in February were—

For Passengers.....	\$6,573
For Freight, etc.....	1,522
	\$8,095

The earnings for the week ending Feb. 18., 6,804

The earnings for the month of February were \$27,448. The road was only opened the latter part of January. For a road costing only about \$1,500,000, the above receipts are very large.

**Railway Accidents.**

Below we give a portion of an interesting article upon the subject of *Railway Accidents*, by Captain Huish, a well known name in connection with English railways.

A firm, substantial, and well kept road, is undoubtedly the basis of all safety in railway travelling, and with the heavy and increasing traffic now passing over the iron highways of Great Britain, it requires the most incessant vigilance (especially since the speed of the trains has been increased,) to maintain the way in the condition, which is essential for the safety of the passengers and the economy of the rolling stock. As the intervals between trains become less frequent as the speed of travelling is accelerated, and as the heavy merchandise traffic, which promises to form, ere long, the most important feature in the receipts of many lines, increases, the repairs become greater, and at the same time more difficult to carry on. It is not intended, in these brief remarks, to enter on the very extensive field of "permanent way," especially as it is a subject so familiar to the members of the society; but the experience of the author leads him to the conclusion, that even more attention than has hitherto been given to this fundamental question, must be devoted to it in future, or the theories which have been constructed, and the practice based upon it, will be found to fail. Improvements are continually introduced for the purpose of obtaining a sound continuous road, and there is no doubt that the recognised evils will eventually point out their own remedy. Fishing the rails is now a popular, and, as far as partial experience can determine, an efficient mode of strengthening a railway, for the increased traffic it has to bear. Other measures, having the same object in view, are in course of experiment, and stone blocks are generally being rejected in favor of wooden sleepers. Heavier rails, with shorter bearings, are gradually being introduced wherever relaying has become necessary; and engineers are fully sensible, that a road constructed to support moderate trains, drawn by light engines at low speeds, is utterly inadequate to endure the crushing effects of monster locomotives at express speeds. The defects of lamination, deflexion, and splitting of the rails, are rapidly increasing; while transverse fractures (a species of failure almost unknown a few years ago,) are now of frequent occurrence; and the difficulty of maintaining the gauge of the line, under the present weights, not only increases, but much of the oscillating motion, which is so unpleasant to the traveller, and so destructive to the stock employed, must be attributed to the same cause. Requiring—as railways do—superior rails to bear the increased strain now thrown upon them, it is painful to observe that, instead of keeping pace with the necessities of the case, the rail-makers have allowed their production to deteriorate very greatly; indeed, the utmost caution is now required in the purchase of rails; with every security afforded by name and standing in the trade, the greatest disappointments are constantly arising, and the result promises to be very serious, unless instant measures are adopted by the principal makers to retrieve their characters in this respect. Many of the rails recently supplied have shown symptoms of failure at an unusually early period, and are, in many instances, in a worse condition, after two or three years' wear, than old and much lighter rails, which have been subjected to precisely the same duty for from twelve to sixteen years.

So grave has the aspect of this matter become, and so general has been the complaint, that one railway company has come to the determination of rolling its own rails, and has given instructions for erecting works for the purpose.

Under all the disadvantages, however, to which allusion has been made, it is, after all, remarkable how very few accidents have arisen from a defective state of the road itself. The circumstance of a train running off the line is very rare, and when such an event does occur, it may generally be attributed to some palpable neglect of the plate-layers, to some defect in the machinery, or to some obstructions designedly placed on the line.

The latter is, unhappily, a very fertile source of danger, and one against which, where a morbid

desire to inflict injury guides the miscreant hand, it is very difficult indeed to guard. It is little known how frequent, how ingenious, and how varied these attempts have become; and although, from the vigilance exercised, and from fortunate and providential causes, the real damage effected has been far less than could have been supposed, it is lamentable to think, that in addition to the ordinary risks of rapid locomotion, it should be necessary to guard continually against so diabolical a mode of wreaking a petty vengeance, or of gratifying a mischievous disposition.

Numerous instances might be given, which would excite surprise from the cunning design exhibited, and the care apparently exercised in selecting a spot likely to be fraught with the greatest amount of mischief; but the detail would occupy too much space. One only, and that the latest attempt of this kind, may be mentioned:—A few weeks ago, upon a branch line in Lancashire, the points of an important siding were jammed open, and, in order to prevent the signal-man from averting the intended accident, the wire of the auxiliary signal was lashed with a piece of string, and was thus prevented from acting. Happily, however, by a fortuitous circumstance, the villainy was discovered a few minutes before the passenger train approached.

It has been customary, when such attempts have been made, to offer a considerable reward for the discovery of the perpetrators. It is questionable, however, whether setting a patient watch, and establishing a careful inquiry throughout the neighborhood, are not more effectual means of tracing the culprit. Considerable success has certainly attended this course, while there is, it is believed, no instance of a voluntary statement for the purpose of securing the reward. The punishment for this class of offences has recently been made more severe, and although it is not to be expected that they should altogether cease, it is hoped that they may become less frequent.

The alternations of weather in a climate so variable as England, have a material influence on the permanent way; and on any great and sudden change, either to heavy rain, after lengthened drought, or to a rapid thaw, after continued frost, increased watchfulness is necessary on the part of the upholders of the road, and the engine-drivers and guards. It is at such periods that the weak points in a road show themselves; a sudden relaxation of the line seems at once to take place, and, unless counteracted by vigilant attention, great danger must result.

The rapid development of general traffic on all the main arterial lines in the kingdom, and the transfer to them of much of the heavy trade which was formerly carried on by canals, have caused a very great extension of siding accommodation, and this, by multiplying the points and crossings in the main line, has *pro tanto* increased the risk attending them. Anything which breaks the continuity of the rails is necessarily an evil, and tends in a certain degree to develop danger; and as these frequent "turn-outs" cannot be avoided on a line of heavy traffic, the railway manager is compelled to rely on regulations and signals, and to that extent is obliged to incur the additional hazard which attends the employment of officials, from whose neglect, or want of discretion, the most fatal consequences may at any moment arise. On the London and Northwestern railway, the increase of siding, during the last few years, amounts to 53 miles. In laying down these sidings, one very fertile source of danger has, however, been considerably reduced. "Facing points" were formerly common and numerous; they are now rarer, and although at the junctions of branches, and in some peculiar positions, they cannot be altogether abolished, no railway manager will rest contented while one of these points is allowed unnecessarily to remain upon his line.

In connection with this subject, allusion may be made to self-acting switches. Useful as this invention has proved, it has been attended with concomitant evils of no trifling magnitude, and many accidents have occurred from a reliance upon them. They require constant vigilance to secure their being kept clean and well oiled, and it is very difficult to insure proper attention being always paid to them. It may indeed be remarked, as a

general rule, that so far from machinery being a means of safety, (when used for superseding personal inspection and manipulation,) it is usually a source of increased danger; and the numerous clever contrivances and complicated arrangements, which are so continually submitted to the examination and opinion of railway men, though evidencing the ingenuity and industry of the projectors, are generally valueless as practical means of operation. The greatest simplicity in every thing connected with the road and the signals upon it, will provide the nearest approach to security; and in proportion as such simplicity is departed from, it is probable that a practical good will be sacrificed, in endeavoring to attain a theoretic excellence. In concluding this branch of the subject, it may be repeated, that fewer accidents to life and property arise from the road than from any other cause; and were casualties confined to those attributable to "the way," the annals of railway accidents would be scanty in the extreme.

The next question of interest is the "locomotive"—that extraordinary invention, which has already changed and ameliorated the whole surface of society, and which is destined to work still greater revolutions in the social fabric of the world. The increased power and capacity, the more perfect finish of the various working parts of the engine, and the general improvements in form and proportions which have been gradually introduced, have rendered far less frequent than heretofore those delays and irregularities, which are always attended with inconvenience, if not with danger. Yet, it would be too much to expect immunity from casualties to so elaborate and so severely tested a machine; and though the parts have been greatly strengthened in every respect, the improvement does not appear to more than meet the greater demands on its powers, in consequence of the increased loads and speeds which are now adopted.

The variety of mishaps to which a locomotive is liable, will be seen from the following table, containing the causes of one thousand failures on the London and Northwestern railway.

This return spreads over a lengthened period, comprises every description of defect, and is given for the purpose of proportion only.

*Analysis of 1000 cases of Engine Failures and Defects, occurring on the London and Northwestern, and subsidiary railways.*

Stock of Engines, 587.

- 157 Burst and leaky tubes.
- 92 Broken springs.
- 89 Broken valve-spindles.
- 77 Broken and defective pumps.
- 48 Broken feed-pipes.
- 40 Broken piston rods and pistons.
- 34 Broken and damaged valves and valvular apparatus.
- 34 Lost and broken bolts and pins (various).
- 34 Fire bars burnt out.
- 31 Lost and broken cotters (various).
- 29 Plugs and joints blown out.
- 25 Broken and lost eccentric straps.
- 21 Broken wheels and tyres.
- 21 Broken and bent coupling and connecting rods.
- 17 Broken sponge boxes.
- 17 Broken and bent eccentric rods.
- 17 Broken crank pipes.
- 15 Broken and shifted eccentric shafts.
- 15 Broken coupling and draw bars.
- 13 Broken crank and other axles.
- 13 Broken eccentric straps and bolts.
- 13 Broken and damaged steam and suction pipes.
- 13 Broken and defective reversing levers.
- 11 Broken connecting rod straps.
- 11 Broken middle bearings.
- 9 Broken spring bearings, screws and buckles.
- 8 Broken lifting links.
- 7 Broken blow-off and other cocks.
- 6 Broken quadrant studs.
- 6 Lost and loose regulator spindles.
- 6 Broken gibs.
- 5 Broken stay in fire-boxes.
- 5 Detached ash-pans.
- 5 Smoke-box and chimney end on fire.
- 3 Broken brackets of weigh bar shafts.
- 3 Feed pipes stopped up, dropped fire.
- 3 Broken spring balances.

- 3 Broken slide blocks.
- 3 Broken crank rods.
- 3 Tubes drawn in (chimney end).
- 3 Broken axle boxes.
- 3 Broken slide valves.
- 3 Broken right hand bearings.
- 3 Broken glands.
- 3 Defective hose pipes.
- 3 Broken piston rings.
- 2 Broken brakes.
- 2 Lost quadrant washers.
- 2 Broken goss head spindles.
- 2 Mud-hole doors defective.
- 2 Broken weigh bar shafts.
- 2 Broken brasses of driving journals.
- 2 Broken studs of link motion.
- 2 Broken catches of fire bars.
- 2 Broken glass tubes.
- 1 Nut off tender draw-bar.
- 1 Broken tender eye-bolt.
- 1 Defective whistle.
- 1 Boiler burst.

1000 Gross total.

It would be interesting to know how far this return coincides with the results on other railways, because, were somewhat similar ratios evolved, the knowledge of the proportions would direct the special attention of locomotive superintendents to the necessity of guarding more particularly against casualties of most frequent occurrence. It will be observed, that burst and leaky tubes nearly double any other class of failure, and that these, with broken springs and broken valves, amount to one-third of the entire number. Very few indeed, of the above failures, are attended with direct danger to the public, but, as producing a temporary or permanent inability of the engine to carry on its train, may be the remote cause of collision.

The carriage stock of railway companies is generally of so superior a kind, both as to design and construction, that accidents arising from their failure are very rare. The wheels and axle-boxes are the most severely tested parts of the vehicle, but if originally of a proper construction, give very little trouble in their maintenance and repair. Experience seems to give the superiority to the wooden wheels, of which there are many kinds in use. A spring sometimes breaks, and a tyre occasionally fails, in which case the wheel is in danger of flying to pieces, but the instances are so infrequent, that they are not sources of much anxiety to a railway manager. Defective workmanship, where either the carriage, or the principal parts of it, are supplied by contract, has specially to be guarded against; where these are sound and the carriage is daily examined, it may be relied on for a very long period. During the last four years, only six wheels have failed, in the very large stock of the London and North Western Company. The heating of axles, however, is a source of frequent annoyance and alarm to passengers. Since the bearings were increased in size, and more care has been exercised to make the cover fit close, and to preserve the grease free from dust, when not in use, this cause of trouble has diminished, and the recent introduction of the patent axle-box, which, under proper management, will run many hundreds of miles without being fed, bids fair to obviate the evil to a considerable extent, if not to prevent it altogether; still, on a hot summer's day, in a district with sandy ballast, it is, and will always be, very difficult to keep the axles of a fast train cool. The couplings of carriages are seldom broken, even by sudden jerks.

There is, perhaps, no more alarming occurrence than a fire in a passenger train. Still, however, there has not been an instance in this country of any loss of life from this cause, nor have the cases been numerous; but there have been several narrow escapes; and the accident is one to which a train may be at any instant subject from the escape of heated coke. Spontaneous combustion has also in more than one instance nearly produced a serious conflagration. This has arisen from the incautious introduction of lucifer matches, or similar combustibles, among the luggage of the passengers. The occurrence of fire, and the feeling of insecurity which attaches to the passenger, from a feeling of inability to stop the train, if desired, from any other cause, is continually reproducing a multitude of

schemes for communicating between the passenger and the guard, and the guard and the driver. These have assumed a multiplicity of forms, yet the principle is generally identical, viz: a connexion by wire, or rope, between the engine and the guard's van. Simple and inexpensive as this contrivance is, it fails in practice, and after being adopted more than once, has again been laid aside. The whole of the trains of a northern company were some time back fitted with the means, by a flexible jointed tube, of communicating with the driver, but it has not been considered a successful attempt to overcome the difficulty. The same may be said of the numerous contrivances for arresting the passage of a train, by the instantaneous application of a number of powerful brakes, (some of the inventions applying the brake to the road itself;) of the proposals to work signals by means of the engine striking certain levers as it passes; and hundreds of similar suggestions. Among the inventions transmitted to the author, and for most of which compensation was claimed, one proposed to arrange a set of signals, which were to be successively struck down by the chimney of the engine; and another, in order to stop a train in the shortest space, gravely proposed that a large anchor attached to a stout cable, should be thrown out of the sternal. Perhaps the most feasible and favorite plan for giving confidence to passengers, has been to continue the foot-boards of carriages, so as to form a continuous narrow platform, with a brass rod attached to the panel of the carriages; by this means a passenger might escape and pass safely along to the guard's van, or to the engine. The plan was suggested to and recommended by the Railway Commissioners. A committee, of the most experienced railway officers, was appointed by the clearing-house to consider it; they have done so, and their report, founded on returns and reasonings, which appear unanswerable, is the unanimous condemnation of the measure. We are thus apparently as far off as ever from gratifying the public demand for instant communication between the passenger and the guard, and it is possible that no better plan will be discovered, than that now in use on the London and North Western line. It is as follows:—The guard's van at the rear of the train, projects more than a foot beyond the carriage on either side. In this projection a glass window is fitted, the guard's covered seat being opposite to it. He is thus enabled to see the entire length of the train, and can scarcely fail to observe a hand, or a handkerchief, if waved from a window. This contrivance is evidently unavailing at night, unless a spare light were by some means placed at the disposal of the passenger. At present, however, it only to some extent meets an evil, for which no more practical and complete cure has been provided. The almost universal practice of leaving the doors at one side unlocked, is a source of not unfrequent accident; yet so distasteful in public opinion is a locked door, that only one company has ventured to adopt it as a rule. The reckless conduct of many habitual travelers may yet possibly force it as a regulation on others, especially if juries continue to inflict severe punishment on companies, even when the fault is primarily with the passenger himself.

If, however, there is no part of the railway machinery from which so little danger may be apprehended as the passenger carriage, the same cannot be claimed on the part of the merchandise wagon. Whether the absence of direct danger to human life, or an injudicious economy, has been the cause, the fact is, that in no portion of the system has so little improvement been exhibited, and in which, at the present moment, there is so great a necessity for a complete modification. In this respect England is far behind the Continent. The axles of wagon stock have, in many instances, been of the most faulty model and material. The accidents to the trains, from the fracture of these parts, have been very numerous, while the destruction of property has been sufficient to have paid for a very superior vehicle. In one recent instance, several hundred axles, of a peculiar form, were removed from a leading railway, after a short experience of their working. Axles are now made much stronger than formerly; 3½ inches used to be the ordinary diameter, 4 inches is now considered a minimum, and although more attention has been bestowed on

the form and taper of the axle itself, still very much remains to be done in this matter. The fact of the crystallization of the iron by the repeated vibrations, and the peculiar causes of incipient fractures, are still debatable points with engineers and wagon builders. It is desirable that by a thorough examination of the subject, these disputed questions should be disposed of. The wrought iron wheels of merchandise wagons do not on the whole give much trouble. The most defective part of the wagon is, however, the mode of coupling. This is of the rudest kind, and it is a matter of surprise that a vigorous and combined effort has not been made by the railway interest to improve it. Very few merchandise wagons have spring buffers, and even those that have them, are simply linked together by a loose chain. Every one must have noticed the bumping sound produced in the starting and stopping of a merchandise train. Even where the driver is very careful, the succession of heavy blows in a long train is sufficient to injure the stock, and to break any delicate articles that may be conveyed in the trucks; but when it becomes necessary to arrest a train suddenly, the shocks are very destructive to the framework. This evil, great as it is, is aggravated by the circumstance of a variety of wagons being run in the same train; a light and short wagon is probably found between two long and heavy ones, and the irregularity of loading, according to the staple trade of a particular district, still further increases the risk. From the through system of traffic, the wagons of half a dozen companies may frequently be found in one train, and as these are not built to any particular height or breadth, the ends do not strike evenly, and on receiving a check, a tendency to mount (especially if the wagon is unevenly loaded, which must always be the case with some description of goods) is apparent. Covered vans, low timber trucks, and box-wagons, are all run together, in trains of from 30 to 60 vehicles, and at speeds varying from 15 miles to 20 miles an hour. It is, in fact, a wonder that a traffic so conducted is not subject to continual accident, and the circumstance of the comparative freedom from casualty is rather an evidence of the extreme safety of transit over parallel iron bars, than any defence of a system which is no credit to the mechanical skill of the country. Until every wagon is coupled up to spring buffers, in the same manner as a passenger carriage, and until either by general concert, or by compulsory regulation, the standard central height, and central breadth between the buffers, are matter of regulation, the risk of accident and the certainty of damage must continue. The author succeeded, some years ago, in obtaining, through the medium of the railway board, a general concurrence on the subject of the buffers of passenger carriages, but no measures have yet been effectual as regards merchandise vehicles.

Fires in merchandise trains are of frequent occurrence, and from the susceptibility of the tarpaulin covering to ignite, and the presence of straw in the loading, considerable danger must always exist. This fact and the damage which fine goods receive from wet, have caused the introduction of covered wagons. The use of these wagons is now greatly increasing, and for all goods capable of being closely packed, they bid fair to entirely supersede the open truck and tarpaulin. The first cost is greater, but the repairs of the sheets, in three or four years, will fully compensate for the difference.

#### Journal of Railroad Law.

THE BROADWAY RAILROAD CASE.

Some of the principal points ably urged by the legal Nestor, ex-chief justice Jones, in the case of *John Milbau and others vs. Jacob Sharp and others*, were substantially the following:

1. It is absurd to regard the contemplated Broadway railroad as a nuisance. Broadway is fast becoming a place chiefly used for public and commercial purposes, and must consequently be thronged with carriages. Will the rail cars be any more annoyance than the omnibuses, by which it is at present crowded? Will the former occupy a tenth part of the room now needed for the latter. And

again, a nuisance must actually exist, before the court will undertake to enjoin against it; or at any rate, there must be such imminent expectancy of its existence, as will justify the court to say beyond all question, that it is about to take place. A railroad is declared by the Supreme Court not to be *per se* a nuisance. And public opinion is strongly in their favor.

2. The resolution of the common council in favor of the defendants, is a mere legislative act, and not a contract. It matters not that it contained the names of the individuals for whose benefit it was made; it was not the less a *law* on this account. Every act of the legislature creating a corporation, necessarily names the incorporators.

3. The resolution complained of was not, as alleged, fraudulent on the part of the corporation. The mayor, aldermen and assistant aldermen have, in the strongest manner, denied, in a deposition which is before the court, that they have received or expect to receive any compensation or gratuity of any kind, for the acts in regard to the resolutions. It is urged, that more advantageous offers were made for the construction of the road by others. But the Common Council were the proper judges in regard to the good faith with which those offers were made. The Common Council, after full and deliberate investigation, and by the votes of thirty out of the forty members of which it consists, decided to reject the offers made by the competitors of the defendants. Now, is it competent for this court to say, that the Common Council, in so deciding, were actuated by impure motives? Judging from the source of these offers, they were a mere device to kill the whole project.

But supposing these competing offers to have been made in good faith, yet they should not have been allowed to supersede the first application. The permission to construct the road was not the property of a private corporation, and could not legally be given away or sold by the corporation. It was a power in trust to be used for the public benefit.

And, moreover, the provision made by the defendants for communications with the main trunk, by means of running omnibuses through the lateral routes, was of such a nature as might well have entitled the proposal of defendants to be preferred to the others.

### RAILROAD IRON.

THE undersigned, from their long engagements with the Manufacturers of G. L. Iron, feeling themselves eminently qualified to assist Railway Companies in America, and Gentlemen proceeding to England for the purpose of purchasing Railroad or other Iron, tender their services free of any charge, and invite communications either personal or by letter.

Address JOHN H. AUSTIN & CO.,  
2 Ingram Court, Fenchurch Street,

March 9, 1853. LONDON.

### GLENDON REFINED IRON.

BAR, RODS, BAND IRON, etc., for sale by  
GEORGE GARDNER & CO.,  
March 9, 1853. Boston, Mass.

### Locomotive Engines. DANFORTH, COOK & CO., PATTERSON, N. J.

HAVING erected an extensive Shop, with the most approved Machinery and Tools, are prepared to execute orders for the various classes of Freight and Passenger Locomotive Engines and Tenders, in the best manner and on the most favorable terms.

Also, Stationary Engines, and the various Tools suitable for furnishing Repair Shops.

The business of Machine making, heretofore carried on by Charles Danforth & Co., is continued by the present firm, and all orders will receive prompt attention. 1y49

**Upper Canada Mining Co.**

INCORPORATED BY ACT OF PARLIAMENT.

**NOTICE**

IS HEREBY GIVEN, THAT A further Installment of One Shilling and Threepence per Share on the Stock of the Upper Canada Mining Company has been called in, payable on the Second day of May next ensuing, at the Office of the Commercial Bank, M. D., at Hamilton.

Notice is also given, that all Stock in default at the expiration of Thirty Days from the said Second day of May, shall be forfeited.

J. L. WILLSON,  
Secretary.  
211

Hamilton, 4th March, 1853.

**IMPROVED SAFETY FUSE.**

THIS superior article, manufactured of the best material, for igniting the charge when blasting, is kept for sale in any quantity by

**BRIDGES & BROTHER,**  
64 COURTLAND STREET,  
NEW YORK.

**To Contractors.**

PROPOSALS WILL be received to the 23d of April inclusive, at the Engineer offices of the Northwestern Virginia Railroad in Parkersburg, West Union and Clarksburg, for the GRADUATION and MASONRY of about 60 sections, averaging 1 mile each, of the road. The work will be mostly of the lighter kind, but embracing many sections of good size and some bridge masonry and tunnelling. There are 103 sections upon the road, of which upwards of 40 are under contract. The route to and along the line is easy—the Baltimore and Ohio Railroad, the Ohio River, and the Northwestern Turnpike, rendering it very accessible at all points.

Specifications will be distributed from the offices named, and also from Fetterman on the Baltimore and Ohio Railroad, near the east end of the line, on and after the 11th of April. Bidders must be well recommended, and will state what other work they may have in hand.

By order of the President and Directors.  
BENJ. H. LATROBE,  
Chief Engineer.  
Baltimore, March 9th, 1853.

**Iron, Steel and Hardware.**

**H. & J. HOPKINS,**  
93 & 95 Barclay St.,  
NEW YORK.

IMPORTERS OF ENGLISH and REFINED IRON of the BEST BRANDS, suitable for LOCOMOTIVE and CAR BUILDERS' use.

Also, Cast, Spring and German Steel, of all sizes—together with a full assortment of Hardware—Contractors and Blacksmiths' Tools, Chains, etc., which we offer at the lowest rates.  
March 9, 1853.

**Notice to Contractors.**

MISSISSIPPI and Atlantic Railroad, from Terre Haute to St. Louis Letting.—Sealed proposals, will be received at the office of the Company, either at Terre Haute, Indiana, or Marshall, Illinois, until and on the 15th day of May, 1853, at sundown, for the grading and masonry from Terre Haute, Indiana, to Pocahontas, Illinois, (124 miles) and for the bridge across the Wabash River.

Propositions will also be received until and on the 15th day of June, 1853, at sundown, at either of the above named offices, for the grading and masonry from Pocahontas to Caseyville, (30 miles.)

Proposals will be preferred for sections not less than one nor more than three miles, but will be received and considered for sections of ten, fifteen and twenty miles.

The Company reserves the right to accept of such proposals as in their judgment will best secure the prompt construction of the road, and to reject any and all propositions as they may think proper.

Profiles and specifications can be seen at the office in Terre Haute for two weeks previous to the letting.

JOHN BROUGH, President.

S. DWIGHT EATON, Engineer.

Terre Haute, Ind., March 1, 1853.

**Notice to Contractors.**

NEW ORLEANS, Jackson and Great Northern Railroad.—Sealed proposals will be received at the office of the company, No. 45 Carondelet street, New Orleans, until the eighth of April next, for the Grading, Masonry and Bridging, of the remaining part of the first division of the New Orleans, Jackson, and Great Northern Railroad, extending from the line of the state of Louisiana to the city of Jackson, Mississippi, a distance of about 95 miles.

The route, generally, is through a high, healthy pine country, which, with the character of the work, renders it worthy the attention of northern contractors.

Satisfactory evidence of ability will be required with proposals.

Plans and profiles will be ready for examination at the Engineer's office in New Orleans, and information regarding the line given by the Assistant Engineers, at Jackson and Gallatin, after the 28th of March.

JAMES CLARKE, Chief Engineer.  
New Orleans, Feb. 28, 1853.

**SCHENCK'S  
MACHINERY DEPOT,**

AND

**LEATHER BANDING MANUFACTORY,**  
No. 62 Courtland st., N. Y.

KEEPS constantly for sale Tools suitable for Railroad Repair Shops; and having connection with some of the largest establishments at the East, is prepared to furnish Tools of any description. Also, the principal manufacturer of the justly celebrated Woodworth's Patent Planing Machines, in forty different varieties. Slide and Hand Lathes, Iron Planing Machines, Sash and Tenoning Machines, Mortising Machines, Upright Drills, Chucks, Steam Engines and Boilers, Pumps of various kinds, etc., etc.

Also, Oak-Tanned Leather Belting,  
Patent Stretched, with the best machinery, and cemented and copper riveted. Warranted superior to any made. Orders respectfully solicited.

March 9, 1853.

SAMUEL B. SCHENCK.

**Railroad Iron.**

THE undersigned Agent for the manufacture, is prepared to contract for T Rails, of the usual pattern and weights, to be delivered on board ship in Wales, or at this port.

For terms, apply to

JOHN H. HICKS,  
90 Beaver st.

March 24, 1853.

**To Contractors.**

NIAGARA FALLS HYDRAULIC CANAL.

SEALED Proposals will be received at the Office of the Niagara Falls Hydraulic Company at Niagara Falls until Wednesday the Sixth day of April next inclusive, for the Excavation, Masonry, Bridging, Gates, Waste-Weir, Bulkheads, Docking, &c.

Plans, Profiles and Specifications may be seen at the Company's Office, at Niagara Falls; also at the Office of the Hon. C. S. Woodhull, No. 59 Fulton street, New York, and Walter Bryant, No. 22 Congress street, Boston, Mass.

The Company will have a steam drilling machine on the work after the fifteenth of March, to which they wish to call the attention of Contractors.

The Company reserve the right to accept or reject any or all of the Proposals as they may consider for the interest of the Company.

E. R. BLACKWELL, Chief Engineer,  
m5 3t Buffalo, N. Y.

**Brass Tubes for Locomotive & Marine Boilers.**

THE undersigned, having been appointed agent for the highly respectable manufacturers, Messrs. Allen, Everett & Son, of Birmingham, is prepared to take orders at fixed prices, for Brass Tubes of all diameters for Marine and Locomotive Engines. These Tubes are found to answer well, and are now in most general use in England, they last much longer than iron, and when worn out, realize about half the amount for old metal. For further particulars and inspection of patterns, please apply to

March 24, 1853.

JOHN H. HICKS,  
90 Beaver st.

**To Railroad Contractors.**

**PACIFIC RAILROAD.**

SEALED Proposals will be received at the office of the Pacific Railroad Company, St. Louis, Missouri, until the first day of April next, for the grading, masonry, bridging and ties for twenty miles, and until the first day of May, for about seventy miles additional, terminating at Jefferson city. This division is mostly in the Missouri valley, and with the facility afforded for transportation on the river, and the ability on the side hill cuts of using a large force advantageously during the best part of the working season, it may be worked promptly and economically. There will be several large bridges on this division. The work will be divided into sections of about five miles, but contractors may take more than one section. Offers received either for cash payments in full, or a portion on the stock of the company. Plans and profiles will be ready for inspection fifteen days before the dates given above, and at any time information will be furnished by the Engineer. Security will be required for the faithful and prompt performance of the work.—The Company reserve to themselves the right to reject such offers as it may not seem to their interest to accept.

Other portions of the road, or of the South West Branch may be put under contract during the season.

THOMAS ALLEN, President.  
THOS. S. O'SULLIVAN, Engineer.

**To Contractors.**

SEALED Proposals will be received at the office of the Maysville and Big Sandy Railroad Company, in the city of Maysville, Kentucky, until Saturday, April 2nd, 1853, at sundown, for Graduation and Masonry of Fifty-one miles of the road, between Maysville and Springville, (opposite Portsmouth, Ohio.) Plans, Profiles and Specifications will be ready for inspection for two weeks before the day of letting.

The line from Springville to the mouth of Big Sandy river will be put under contract as soon as this company receive reliable assurance of being met at that point by the Virginia Central Railroad.

By order of the Board of Directors,  
THOMAS B. STEVENSON, President.  
CHAS. B. CHILDE, Chief Engineer.  
JAMES A. LEE, Secretary.  
January 20, 1853.

**Fulton Car Manufactory,**  
CINCINNATI, OHIO.

GEORGE KECK would respectfully call the attention of Railroad Companies in the West and South to his establishment at Cincinnati. His facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. He is prepared to execute to order, on short notice, Eight-wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, February 9, 1853.

**Etna Safety Fuse.**

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

So. Manufacturers,

No. 85 Liberty St.

NEW YORK.

And in the principal cities and towns in the U. States.

The Premium of the AMERICAN INSTITUTE was awarded to the Etna Safety Fuse at the late Fair held in this city.

November 3, 1849.

**Pease & Murphy,**

**FULTON IRON WORKS,**

FOOT of Cherry st., E. R. Office, 27 Corleau corner of Cherry st. Manufacturers of Land and Marine Engines.

N. B.—Engines and Boilers repaired.

## RAILROAD CONTRACTS.

**THE MOBILE AND OHIO RAILROAD CO.**  
HEREBY OFFER FOR CONTRACT THE

## GRADUATION, MASONRY AND BRIDGING

OF 67 miles more of their road in North Mississippi, extending from the North line of Chickasaw County, to the Tennessee State Line, and passing through Itawamba and Tishamingo Counties.

Also, 118½ miles more of said road in the western District of Tennessee, and passing through McNairy, Henderson, Madison, Gibson and Obion Counties.

The Line will be ready for inspection in Tennessee on and after the 1st of March, and in Mississippi on and after 25th of March next.

Plans, profiles and specifications will be exhibited, proposals received under seal, and contracts made at the following times and places, to wit:

March 10th to 19th inclusive, at Trenton, for Line through Abion and Gibson Counties.

March 20th to 30th, inclusive, at Jackson, for line through Madison, Henderson and McNairy counties.

April 5th to 5th, inclusive, at Carrollville, Tishamingo county, Miss., for line through Itawamba and Tishamingo counties.

Profiles can be seen, and other information obtained, as follows:—After 1st of March:

At Trenton, of Doct. Hess, Agent.

At Jackson, of Mr. Stevens, Engineer.

And after 25th March,

At Carrollville, of the Resident Engineer.

Some portions of the 185½ miles now offered for contracts, are heavy cuttings and fillings, and the whole line very desirable work: the light gradings being, mostly from side burrowing: the line occupies the high, rolling and healthy country intermediate between the Mississippi and Tennessee rivers, by both of which rivers easy access can be had to all points of the work, by an average land travel of 12 to 40 miles. Within a short time after this letting, 39 miles more and the last of the main road will be ready for contract, together with about 100 miles of branch roads.

The attention of Contractors is invited to the work, Obion, described as most advantageous for their profitable employment, in consequence of the alluvial character of the country, low price of provisions and animals, and a very temperate and salubrious climate.

JOHN CHILDE,

Chief Engineer and General Agent.  
New York, January 28, 1853.

PATENT  
**Locomotive Steam Cylinder  
BORING MACHINE**  
AND FOR OTHER PURPOSES.

THIS Machine enables the Cylinders to be re-bored without moving them from their places, thereby saving a great expense. We refer to Nashua & Lowell, Fall River, Vt. Valley, Vt. and Mass., Old Colony, New York and New Haven, Providence, Hartford and Fishkill, Western, Mass., New York and Erie, Boston and Worcester, Connecticut River, Worcester and Providence, Champlain and St. Lawrence, Boston and Maine and Hudson River Railroads, who have the Machines in use.

For sale by  
**BRIDGES & BROTHER, Agts.,**  
64 Courtland St. New York.

January 20, 1853.

## IRON.

**Pierson & Co.,**

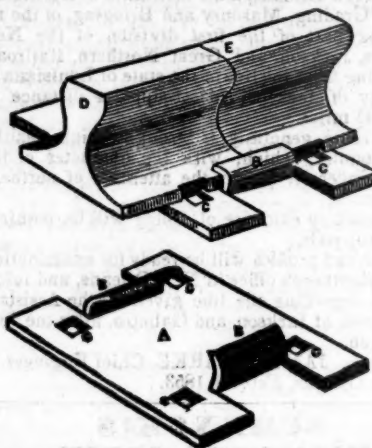
24 BROADWAY, NEW YORK,

KEEP on hand a large and general assortment of ENGLISH and AMERICAN, Refined, BAR, BOLT, SHEET and SHAFTEING IRON, especially manufactured for LOCOMOTIVE and CAR BUILDERS, and RAILROAD MACHINE SHOPS; also, Boiler Plates and Rivets, Sheet, Cast and Spring Steel.

Locomotive Cranks, Axles, Tires and Tire Bars, of the B. O. LOWMOOR, and other approved makes, imported to order on the most favorable terms.

February 14, 1853.

**The American Railroad Chair  
Manufacturing Co.  
IN POUGHKEEPSIE, N. Y.,**



ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

Our Chairs are made from Ulster Iron, the quality of which is well known. Our Chairs are made by machinery, and formed over a die, consequently all are uniform and alike.

Our Chairs are in use on the following Roads, viz:

Syracuse and Utica,	Chester Valley, Penn.,
Buffalo and Rochester,	Tioga,
Northern,	Norwich and Worcester,
Montreal and New York,	Kings Mountain, S. C.,
Kennbec and Portland,	Columbia and Granville,
Plattsburg and Montreal,	Buffalo, Bayou Brazos and
Chicago and Rock Island,	Colorado, Texas,
Milwaukee and Miss.,	Panama, and others.

For further information address,

N. C. TROWBRIDGE, Secretary,  
Poughkeepsie, N. Y.

January 1, 1853.

## To Contractors.

**HENDERSON AND NASHVILLE R. R.**  
SEALED bids addressed to the President of the

Henderson and Nashville Railroad Company, at Henderson, Ky., will be received and are invited until the 1st day of April, 1853, for the construction of that part of said road running from the town of Henderson, by the way of Madisonville and Hopkinsville, to Trenton, Todd county, Ky., in all about eighty-three miles. The bids may be made out on either or any of the following basis—

1. For the grubbing and grading, including the ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure, of any one or more sections of the Road.
2. The same with the addition of the wooden superstructure ready for the iron rails.
3. The same with the iron rails, chairs, etc., ready for the rolling stock, including broken stone or gravel ballasting.
4. The same with the depots, wood and water Stations, Engine and Car-houses, offices, etc., complete for use, or
5. Bids will be received as above for the construction of the entire Road, on the following basis—viz:

1. For the grubbing and grading, including ditching, draining, cuts, fills, culverts, bridges and turnouts complete, ready for the wooden superstructure.

2. The same with the wooden superstructure.
3. The same with the iron rails, chairs and broken stone or gravel ballasting, ready for rolling stock, including wood and water stations, etc.
4. The same with the full equipments of rolling stocks, depots, wood and water stations, Engine and Car houses and shops, offices, etc., complete, and the whole road and its equipments perfect and ready for use.

Complete drafts, maps and profiles of the Road from Henderson, via: Madisonville and Hopkinsville to Trenton, together with plans, estimates and specifications of the work, may be seen by persons disposed to bid for the whole or any part of it at the Henderson and Nashville Railroad Office, in Henderson, Ky., on and after the 1st day of March, 1853. Bidders will please give their Post Office address in their proposals.

In consequence of the inclemency of the season, the high water, and other circumstances, making it in the opinion of the Board of Directors, impossible for our skillful and energetic Chief Engineer, Wm. Bewley, Esq., to execute fully the locating surveys of our Railroad in time for us to exhibit the maps, profiles, plans, estimates, etc., on the 1st day of March, 1853, as stated in our original advertisement, we have determined to make a change in our advertisement, lest Contractors should be deceived, and we now say that the maps, profiles, plans, estimates, etc., of our Railroad, will be ready for exhibition to Contractors at any time between the 10th day of April and the 10th day of May, 1853, within which time bids will be received, and that our original advertisement is thus far changed.

Any further or more detailed information asked either orally or by letter will at any time be cheerfully given.

By order of the Board of Directors of the H. & N. R. R. Co.

ED. H. HOPKINS, President.  
Henderson and Nashville R. R. Co.

**Wilkinson's  
EXPLOSIVE  
RAILWAY SIGNAL,**

For sale by

**BRIDGES & BROTHER,**  
64 COURTLAND ST., N. Y.

THE EXPLOSIVE RAILWAY SIGNALS are similar to those used in England and from experience are found to be much better. They are so constructed that the movement of an Engine over them at any speed, will cause an explosion that cannot be mistaken. In the night, from this same cause, there will be a bright flash, which will be so vivid that it cannot be passed unnoticed.

This will be found to be one more preventive of collision. It is often the case that during a fog or snow-storm, a train cannot be warned of its danger by a flag or lantern, and in such instances they are invaluable. They are impervious to water, and will keep their explosive property any number of years. They can be handled and carried with safety, it requiring a heavy blow to explode them.

January 20, 1853.

## Gerard Ralston,

21 TOKEN HOUSE YARD, LONDON,

OFFERS HIS SERVICES FOR THE

**PURCHASE AND SALE OF  
AMERICAN SECURITIES,  
COLLECTION OF DIVIDENDS,  
DEBTS, LEGACIES, ETC.,**  
And for the Purchase and Inspection of  
**Railroad Iron, Chairs, or**  
any kind of Machinery.

## REFERENCES:

Messrs Palmer, McKillop, Dent & Co., London.  
" George Peabody & Co, London.  
" Curtis, Bouve & Co, Boston.  
Richard Irvin, Esq., New York.  
Robert Ralston, Esq., Philadelphia.  
C. C. Jamieson, Esq., Baltimore.

39

**Dudley B. Fuller & Co.,  
IRON COMMISSION MERCHANTS,  
No. 139 GREENWICH STREET,  
NEW YORK,**

**A. N. GRAY, Cleveland, O.,**  
RECEIVER AND FORWARDER of Railroad  
Iron, Chairs and Spikes.  
Also, Cars, Locomotives, and all kinds of Machi-  
nery for Railroad purposes.  
Office next door to the Custom House, Main st.  
January 12, 1853.

**R. Groves & Sons,**  
SHEFFIELD, ENGLAND,  
MANUFACTURERS OF  
WARRANTED Cast Steel of superior quality for  
Tools, Machinery and Engineering purposes.  
Single and Double Shear, Blister, German, Spring  
and Sheet Steel of every description; also, Cast Steel  
Files of high reputation, specially adapted for the use  
of Machinists, and Saws and Edge Tools of all kinds.

Corporate mark



CHAS. CONGREVE, Agent,  
58 Maidenlane, New York.

Stocks of the above goods constantly on hand.  
January 12, 1853.

## LOW MOOR IRON.

**W. M. BAILEY LANG,** 9 Liberty Square, Boston,  
and 24 Broadway, New York, Sole Agent in  
the United States and Canadas for the Lowmoor  
Iron Co., is prepared to receive orders for this justly  
celebrated Iron, and offers for sale an assortment of  
the Round sizes which he now has in store, and which  
for strength, soundness and uniform quality, stands  
without a rival.

### Railroad Iron.

**2000 TONS** Railroad Iron, weighing about 59  
lbs. per yard, "Erie" pattern of G. L. and  
"Crawshaw" manufacture, now on the way from the  
shipping ports in Great Britain to this port, for sale by  
**P. CHOUTEAU, Jr., SANFORD & CO.,**  
No. 51 New street.

December 4, 1852.

### Bowling Tire Bars.

40 Best Flange Bars 5½x2 inches, 11 feet long.  
40 " " 5½x2 " 7 feet 8 in. long.  
40 " Flat " 6x2 " 11 feet long.  
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by

**RAYMOND & FULLERTON,**  
45 Cliff street.

### I. Dennis, Jr.,

WASHINGTON, D. C.,

ATTORNEY for Inventors, and Agent for Procur-  
ing Patents—Practical Machinist, Manufacturer  
and Draughtsman, of 20 years' experience. Circulars  
containing important information, with a map of  
Washington, sent to those who forward their address,  
and enclose a stamp.

31tf

### Devlan's Patent Oil Manufacturing Co.,

12 BROADWAY, NEW YORK.

THIS Oil is extensively used on Railroads and  
Steamships, and other Machinery, and is  
worthy the attention of every individual or compa-  
ny that uses Oil for Lubricating purposes. It is  
cheaper than the best Spermin, because it answers the  
same purpose and is more durable, thereby making  
a saving of from 40 to 50 per cent. The best of  
testimonials establish that fact, but cannot be given  
in this notice. All that is required is to test the  
matter, and if it will not answer as recommended,  
it will be taken back and money returned.  
New York, Feb. 9, 1853.

2w

### Buffalo Car Works.

TOWNSEND &amp; COIT, PROPRIETORS

WE are now erecting an extensive Establishment  
for the manufacture of Railroad Cars, which  
will be furnished with all the conveniences known to  
the business, and ready for operation by the 1st day  
of June next, at which time we will be ready to exe-  
cute orders for Baggage, Box, Platform and Cattle  
Cars, of the most approved style and finish. Mean-  
time we are prepared to make contracts for work to  
be furnished during the summer and fall.

TOWNSEND &amp; COIT, Buffalo.

February 23, 1853.

**SIMEON DRAPER,** No. 46 Pine-st., offers for  
sale, a variety of RAILROAD BONDS and  
STOCKS; also CITY, TOWN and COUNTY  
BONDS, among which are—

#### 1st Mortgage Convertible Bonds:

	Payable in
7 per ct.—Buffalo, Corning and New York R. R. ....	New York, 1867
7 per ct.—Western Vermont R.R. ....	" 1861-71
7 per ct.—Pleaga R.R. ....	" 1872
8 per ct.—Peoria and Oquawka..	" 1863
6 per ct.—Maysville and Lexing- ton .....	" 1870
6 per ct.—Dauphin and Susque- hanna Coal Co. ....	" 1877

#### 1st Mortgage Bonds:

7 per ct.—Corning & Blossburg.	" 1873
7 per ct.—Buffalo and New York City .....	" 1866
7 per ct.—Mansfield & Sandusky	" 1860
7 per ct.—Toledo, Norwalk and Cleveland .....	" 1861
7 per ct.—Vermont Valley .....	" 1861
7 per ct.—New Jersey Central..	" 1860-70
7 per ct.—Brunswick Canal Co.	" 1857
7 per ct.—Troy and Bennington. Troy, N.Y.	1862

Also, second mortgage bonds of many of the above  
companies, and—

7 per ct.—Saratoga & Washing- ton R.R. bonds .....	New York, 1862
7 per ct.—Troy and Boston .....	" 1864
7 per ct.—Muscogee Railroad .....	Savannah, 1862
7 per ct.—Huron and Oxford .....	New York, 1862
10 per ct.—Mansfield and Sandus- ky R.R. Co. ....	" 1855-57
7 per ct.—Township of Portland, Ohio .....	" 1862
7 per ct.—City of Dayton, Ohio, guaranteed by Mad River R.R. ....	" 1861
10 per ct.—City of Keokuk, Iowa.	Keokuk, 1863
7 per ct.—Town of Huron, Erie county, Ohio .....	Huron, 1861
7 per ct.—Town of Newark, O. ....	New York, 1860
10 per ct.—City of Milwaukee .....	" 1857
7 per ct.—State of California .....	" 1862-72
7 per ct.—Mortgage bonds of the Atlantic Steamship Co. ....	" 1855
12 per ct.—Improvement Scrip of the State of Wiscon- sin for improvement of Fox River .....	" 1862

Troy and Rutland railroad Stock, with guarantee  
of 4 per cent. dividend and one half surplus profits  
of this and Rutland and Wash. R. R.

Rutland and Whitehall Stock, with guarantee of  
7 per cent. dividend by Saratoga and Washington  
Railroad.

Stock in the Western Vermont R. R. Co.

Stock in the Mad River R. R. Co.

Stock in the Buffalo, Corning and New York  
R. R. Co.

Stock in the Mansfield and Sandusky R.R. Co.

Stock in the Chemung R. R. Co.

Stock in the Southern Bank of Kentucky.

Stock in the New York and Virginia Mail  
Steamship Company, paying 20 per cent.  
dividends.

### To Railroad Co's, Locomotive Builders and Engineers.

THE undersigned having taken the Agency of Ash-  
croft's Steam Gauge, would recommend their  
adoption by those interested. They have been exten-  
sively used on Railroads, Steamers and Stationary  
Boilers, where, from their accuracy, simplicity, and  
non-liability to derangement, they have given perfect  
satisfaction. In fact, for Locomotives, they are the  
only reliable Gauge yet introduced.

CHAS. W. COPELAND,  
Consulting Engineer, 64 Broadway.

Aug. 28, 1852 4m\*

**A. Whitney & Son,**  
PHILADELPHIA, PA.,

MANUFACTURERS of Chilled Railroad Wheels  
for Cars and Locomotives. Also furnish Wheels  
fitted complete on best English and American Rolled  
and American Hammered Axles.

31tf

### To Railroad Companies, Car Builders, Machinists, etc.

**SINGER, HARTMAN & CO.,**  
SHEFFIELD IRON AND STEEL WORKS,  
PITTSBURG, PA.

Warehouse Nos. 109 Water, and 140 Front sts.

HAVING completed their arrangements for man-  
ufacturing Car and Locomotive Axles, Piston  
Rods, Wrought Iron Shafting, etc., either hammered  
or rolled, are prepared to offer inducements as to qual-  
ity and price. They also manufacture  
Boiler Plate and Rivets,  
Railroad and Boat Spikes,  
Car and Locomotive Springs,  
" " Spring Steel,  
Solid Box Vices, etc., etc.

1547\*

### The Cold Spring Iron Works, INCORPORATED IN 1848.

IN the Town of Otis, County Berkshire, Massachu-  
setts, manufactures CAR AXLES, and all kinds  
of WROUGHT IRON used in the manufacture of  
LOCOMOTIVES and CARS; also, BAR IRON of  
all descriptions. Particular attention is paid to the  
manufacture of CAR AXLES, and the Works being  
situated in a region of WOOD and CHARCOAL,  
with which their Axles are exclusively made, the Com-  
pany feel confident they can furnish an article equal,  
if not superior, in quality and finish to any in the  
market. They solicit the orders of RAILROAD  
CORPORATIONS and CAR BUILDERS, and prom-  
ise they shall be promptly attended to: and execut-  
ed on terms as advantageous as can be had elsewhere.

They refer to—  
John Kinsman, Esq., Superintendent Eastern Rail-  
road, Salem, Mass.

A. T. Peirce, Esq., Car Builder, Norwich, Conn.  
E. T. Osborn, Esq., Superintendent of the Mad Riv-  
er and Lake Erie Railroad, Sandusky City, Ohio.

W. W. Wetherell, Car Builder, " "  
Address HENRY MELLUS, Agent,  
Boston, Mass.  
or, GEO. W. PRESCOTT, Sup't,  
Otis, Mass.

November, 12, 1852.

1y

### Toledo, Norwalk and Clevel- and Railroad.

OPEN through, completing the last link in the chain  
of Railroads between New York, Boston, Phila-  
delphia, Baltimore, Washington City and Chicago.

On and after Monday, February 7,  
1853, Passenger Trains will run  
daily (Sundays excepted) as follows:  
Leave Toledo at 9 A. M. and 10 P. M.  
Leave Cleveland at 9.20 A. M. and 9 P. M.

#### CONNECTING

At Toledo with trains of Michigan Southern Rail-  
road, for Chicago and the West.

At Bellevue with trains of Mad River and Lake Erie  
Road, for Sandusky City, Dayton, Indianapolis,  
Cincinnati, etc.

At Monroeville with Mansfield and Sandusky City  
Road, for Sandusky City, Shelby Junction, Col-  
umbus, Newark and Zanesville.

At Grafton with Cleveland, Columbus and Cincin-  
nati Road, for Shelby Junction, Columbus and  
Cincinnati.

At Cleveland with Lake Shore Road, via Dunkirk,  
for New York and Boston, via Buffalo, for New  
York and Albany and for Western Road and Bos-  
ton, with Cleveland and Pittsburg Road for  
Pittsburg, Wheeling, Philadelphia, Baltimore, &  
Washington City.

E. B. PHILLIPS, Sup't.  
Office T. N. & C. R. R.,  
Norwalk, O., Feb. 2 1853.

### Iron for Machinists.

THE SUBSCRIBERS,  
IMPORTERS AND DEALERS IN  
IRON AND STEEL,

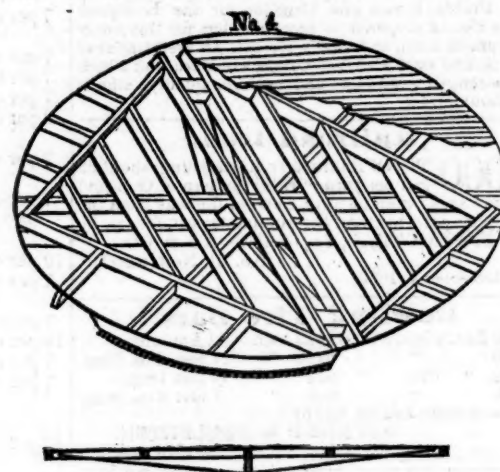
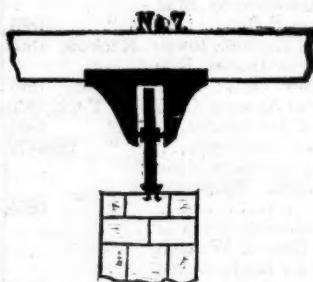
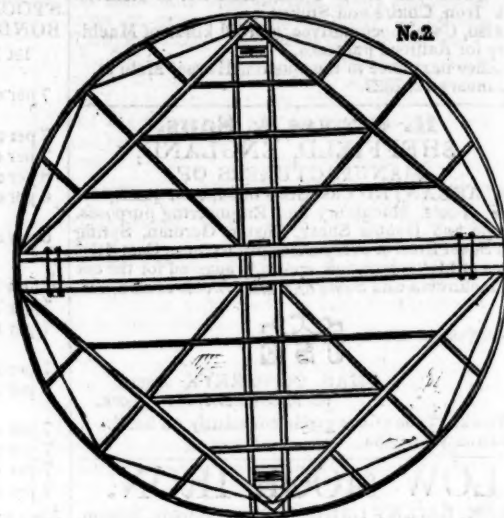
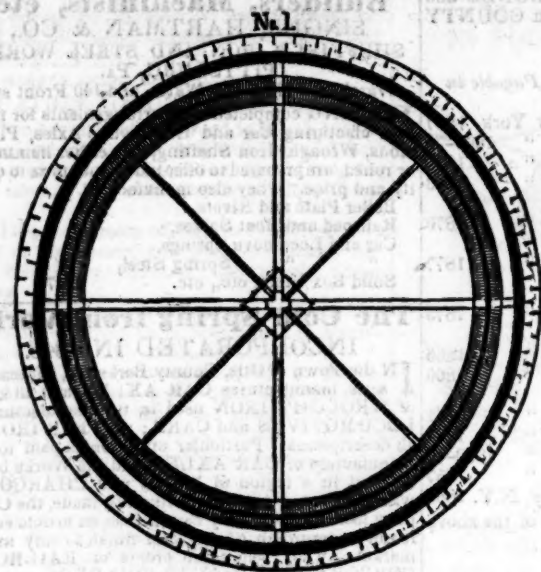
HAVE constantly on hand a good assortment of  
Iron and Steel, expressly adapted to the use of  
LOCOMOTIVE AND CAR BUILDERS,  
AND MACHINISTS GENERALLY.

ELLIOTT & HOLDEN,  
Feb. 16, 1853. 90 Beekman st. N. Y.

### Fire Bricks.

SCOTCH Patent—for sale in lots to suit purchas-  
ers, by  
G. O. ROBERTSON,  
135 Water street, corner of Pine,  
November 19, 1852. New York.

# CARHART'S IMPROVED TURNTABLE.



**THIS TURNTABLE**, together with an Engine and Tender of 30 tons weight, is capable of being turned by **ONE MAN** in 25 SECONDS.

The Patentee of this Improved Table would solicit an examination by those Railroad Companies which have not tried its merits. It is guaranteed to be the cheapest and most durable one now in use; its simplicity rendering it impossible to get out of repair, unless it is placed upon treacherous foundations. The whole cost, ready for use, was formerly \$1,300 apiece; this included all the workmanship and materials, which were the best that could be furnished, with the exception of excavating the pit and furnishing the rail for the tracks. At the present time, owing to the rise in Iron, and the scarcity of stone at some points, the subscriber is compelled to ask a small advance on the above mentioned price. Should it suit the pleasure of any to confer with the subscriber for further particulars,

or inquire into the practical utility of the Table as tested for the last four years, they are respectfully referred to the

Hudson River R. R. Co.,  
S. W. Roberts, Esq., Chief Engineer of the Ohio and Penn. R. R., at Pittsburgh, Pa.  
O. Barnes, Esq., Resident Engineer of the Central Pennsylvania R. R., Pittsburgh, Pa.  
J. Durand, Esq., Sup't of Cleveland and Pittsburgh R. R.

Wm. E. Ferguson, Esq., Chief Engineer of Toledo, Norwalk and Cleveland R. R., Cleveland, O.  
A. J. Conover, Esq., Chief Engineer of Columbus, Piqua and Indiana R. R., at Piqua, O.

Fig. 1, of the above cut, represents the Foundations, consisting of the Bank and Track Walls, the latter made of cut, and the former of hammer-dressed stone, with a cut coping. The Track is spiked and leaded to the stone wall, and cut perfectly level

and smooth. The centre pier is of stone, with a step for the screw and pivot bolted to the same.

Fig. 2, shows the Carcase Framing.

Fig. 3, is a side view of one Main Truss, with the mode of gearing, including the mitre-wheels, and iron crank frame, rack and pinion.

Fig. 4, gives a perspective view of the rim, segments, decking, etc.

Fig. 5, is an end view of the main trucks, with pedestals and wheels.

Fig. 6, is the screw for the pivot, 6 inches in diameter, working in a steel step through a nut for adjustment.

Fig. 7, shows a cross section of the track wall, well and pedestal.

For further particulars, please address

D. M. CARHART,  
Cleveland, Ohio.

February 14, 1853.

## LOW MOOR AXLES.

A SUPERIOR Article for Railroad Cars, supplied by the Manufacturers' Agent - WM. BAILEY LANG, 9 Liberty Square, Boston, and 24 Broadway, New York.

### CAUTION.

RAILROAD Companies, and the public generally are hereby cautioned against purchasing Richardson's Patent Oil Cups, or the right to use the same, except of the undersigned, Proprietor of the Patent, or of some one acting under his authority. Communications addressed to him at Westminster, Vt., will be promptly attended to.

Oct. 2, 1852.

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E. DeWOLF, Jr.

## To Engineers, Architects and Draughtsmen.

THE undersigned begs respectfully to inform Gentlemen in the above professions, that he has constantly on hand a great variety of Instruments for Field and Office use.

Feb. 9 1853.

JAS. PRENTICE,  
315 Broadway, N. Y.

## Railroad Iron.

2000 TONS, weighing about 55 lbs. per yard, now on the way from Great Britain to New Orleans, for sale by

P. CHOUTEAU, Jr., SANFORD & CO.,  
No. 51 New street.

December 4, 1852.

## Wm. Swinburne,

LOCOMOTIVE ENGINE BUILDER, Paterson, N. J., is prepared to execute orders for Freight and Passenger Engines; also, Tenders, Wheels, Axles, Boilers and Railway Machinery in general, with all the modern improvements, etc.

6tf

## Krupp's Prussian CAST STEEL AXLES.

THESE Axles have never been known to break. How many more victims are to be sacrificed before their use becomes universal?

THOS. PROSSER & SON,  
Sole Agents, 28 Platt st., New York.  
New York, Feb. 7, 1853.